

## "MEPC 62 special: The world can afford sustainable shipping"

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It is always worth considering the potential costs and related economic impacts of new environmental regulations affecting global shipping. However, claims by some shipping industry groups that pending IMO ballast water regulations or a proposed carbon levy on bunker fuel will impose unbearable economic hardships on businesses and households around the world seem far-fetched. Let's take a look at the basic numbers.

It is estimated that widespread compliance with IMO ballast water regulations will require more than 50,000 merchant ships to install on-board ballast water treatment (BWT) systems at a cost of about \$1 million each.

For a few years after implementation the IMO's tiered schedule of compliance deadlines could result in as many as 15,000 merchant ships per year installing BWT systems so the annual cost to the shipping industry during those peak years will be about \$15 billion.

Once the existing global fleet is in compliance, of course, compliance costs will decline significantly to around \$3 billion or so annually and be associated primarily with installation of treatment systems on newly built ships.

At the same time as these IMO ballast water regulations are in the works, the World Bank, UNEP and other groups are proposing a carbon levy on bunker fuel with most talk about a levy of perhaps US\$50 per tonne.

In 2009 the global merchant fleet purchased 341.5 million tonnes of bunker fuel at an average price of about \$600 per tonne (total value = \$204.9 billion).

In that year a \$50 per tonne carbon levy on bunker fuel would have increased industry-wide fuel costs by about \$17.1 billion. Coincidentally, this increase in annual shipping costs is about the same as the \$15 billion increase in annual shipping costs associated with ships complying with IMO ballast water regulations during peak years.

To put the potential economic impacts of either environmental initiative in perspective, let's round annual costs of each to \$15 billion and examine what that could mean to the shipping industry and to the exporters, importers, and businesses and households that rely on global trade.

According to the Organization for Economic Cooperation and Development (OECD), global earnings by the world shipping industry in 2009 were about \$380 billion. This means that if a \$15 billion increase in annual shipping costs associated with either compliance with ballast water regulations or a \$50 per ton carbon levy on bunker fuel were absorbed fully by the shipping industry as reduced earnings, shipping industry earnings would decline by 4.5%.

However, let's assume instead that ship owners and carriers pass all of these costs on to their customers (exporters) in the form of higher shipping costs, and that exporters pass them forward to their customers (importers) in the form of higher priced imported goods. And finally, let's assume that importers pass the higher cost of imported goods along to their customers (the world's businesses and consumers) in

the form of higher wholesale and retail import prices.

Under these assumptions none of the costs of ballast water regulations or a levy on bunker fuel would be borne by the shipping industry; the full cost would be paid by the world's businesses and consumers. What would that mean?

The dollar value of international trade in 2009, measured as the value of total exports or total imports, was about \$12.461 trillion (\$12,461 billion). About 85% of this, or \$10.592 trillion involved goods (as opposed to services) that were carried by ships (as opposed to air freight). This means that if all of the \$15 billion spent by the shipping industry was passed back to exporters, who then added it to the prices of the goods they export, the cost to importers around the world of all imported goods carried by ships would increase by 0.12%; that is, by 120 thousandths of 1%.

However, this reflects the effect of higher import prices to importers at the port of entry. The expected percent increase in the prices paid for imported goods by households and businesses will be much less because these prices reflect not only the price paid by the importer, but also the cost of value-added processing and packaging and transport and marketing and wholesale and retail markups, etc.

During 2009, for example, the US Federal Reserve Board estimated that the difference between "border prices" of imported goods at the point of entry and "retail prices" paid for those goods by US households and businesses averaged 50% to 70%.

Using the bottom end of that range, the market value of imported goods worldwide is roughly 50% higher than their imported value at ports of entry. This means the retail value of imported goods carried by ship in 2009 was \$15.888 trillion rather than \$10.592 trillion.

If a \$15 billion increase in shipping industry costs was passed along to global businesses and consumers in that year, therefore, it would result in the prices they paid for imported goods increasing by only 0.009%, that is 9 thousandths of 1%. Of course, the potential impact of such a price increase on the economic welfare of the world's businesses and households is further diluted by the fact that only a portion of the goods they purchase each year are imported. An expected 9/1000 % increase in prices,

of course, is statistically indistinguishable from no change.

There are many reasons to debate the details about when and how IMO ballast water regulations should be implemented and enforced, and whether a carbon levy on bunker fuel is fair and wise and how the proceeds from such a levy should be spent. However, the magnitude of global trade is so huge that the tens of billions dollars of increased shipping costs associated with these and other environmental initiatives, even if they are all passed along to the people who buy imported goods that are carried by ship, is not worth arguing about.

Threats that higher shipping costs will not be passed along uniformly across all imported goods and may be targeted at populations that are particularly vulnerable (e.g. poor people who rely on imported grain) are a different matter. So are claims that higher ship operating costs will impose special hardships on particular ship owners or operators. Such threats and claims will need to be taken seriously and addressed separately.