

One thing we have learnt this week – shipping emissions

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Shipping emissions account for about 2% of global carbon. This is the same as flying. Most ships now are powered by vast diesel engines and the particulate emissions are high, which is a problem in ports. Under the Paris climate agreement shipping emissions were left to the International maritime organisation. They have just made a pledge to cut shipping emissions by 50% by 2050. This is a large but a relatively lax pledge compared to other sectors. The question is how? There are number of surprising low tech or easy ways to cut down. Looking at low hanging fruit for existing ships first of all.

- Steaming more slowly. Maersk found you cut emissions by cutting speed by 30%. This is not totally surprising when you consider driving speeds.
- Fitting ships with a bulbous bit of metal below the water line. 2-7%. Who would have thought of it?
- Even more weird. Pump a blanket of air bubbles around the ship. 3%. Works by reducing drag (friction). Makes some sense when you think about it.
- Following on this friction idea. Paint the ship with low friction paint.
- Rotate the propellers in opposite directions (both going forwards). This cuts a surprising 8-15% by cutting slipstream effects.
- Lastly it occurs to me what goes on on the deck itself could also help. Wind resistance will surely add to fuel consumption.

So all this looks like a 50%ish cut in shipping emissions. One could be very cynical and say this is no coincidence. More significant cuts depend on complete ship redesign. Again there are number of ideas around.

- Build slimmer ships. This apparently cuts up to 25% at speeds and about half at low speeds. Presumably this cuts drag (see above).
- Switch to LNG. A partial solution. Use biofuels? not really sustainable.
- Go back to sail. We are not talking about sailors singing shanties and pulling on ropes here (only if things get really bad). These are [high tech ships](#) possibly combining sails with solar panels. A 70% cut. Would still need some kind of backup power.

There is no doubt that cutting shipping emissions is easier than cutting aircraft emissions. However to get the really deep cuts new ships are needed which the agreement does not force until 2030. In 2008 there was a lot of thought about this but the drop in oil prices put it on a back burner. Its difficult as things stand to see international trade at the same levels with out oil. Neil

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