

Climate change and the green revolution

Climate change, or “global warming”, is an important issue. The temperature on Earth is controlled by greenhouse gases in the atmosphere. Greenhouse gases are made up of carbon dioxide, water vapour, methane, and nitrous oxide. Pollution and emissions increase the level of carbon in the atmosphere and can cause the temperature to change.

Fun Fact: Global surface temperature increased by 0.18°C during the last century.



Carbon Footprint

Emissions caused by organisations, events, or individuals are measured by a carbon footprint. You can measure your own carbon footprint by adding up all the greenhouse gases you produce every day.

Carbon Friendly Shipping

The transport sector emits around 13% of greenhouse gases but different methods of transport have different carbon footprints. In terms of emissions produced for the amount of cargo transported, shipping is one of the “greenest” transport methods.

Despite ships carrying the bulk of world trade, international shipping only accounts for a very small percentage of all carbon emissions (2.7%). Air and road travel have far higher carbon footprints than shipping because they produce much more greenhouse gases per tonne of weight they carry. In 2006 road transport (cars and trucks) made up 10.5% of greenhouse gases. Therefore it is better for the environment to move cargo over water than over land.

Carrying Capacity/Economies of Scale

One of the main advantages of shipping is the capacity to carry large amounts of cargo or passengers in comparison to planes or trucks and buses ([link to cargo page of FTF website?](#)). Cargo is usually carried by ships in large containers like the ones you see on the back of trucks. How much cargo a ship can carry is measured by the TEU, or the “Twenty-foot equivalent unit”, so called because one TEU is 20 foot long.



Fun Fact: Emma Maersk, one of the largest container ships ever built, can carry 11,000 TEUs.



Emma Maersk

Wind Assisted Turbines

Like many industries today, the maritime sector is developing new technology and designing engines to improve its carbon footprint. For example, some modern ships like the Emma Maersk (above) recycle their CO₂ emissions back in to their engines.



Wind power, like that used by the first sailing ships ([link to FTF sail ships?](#)), is also being used to make ships more environmentally friendly. One new method called Skysails is attaching a large kite to pull ships along on windy days .

“Flettner Ships”, also known as “Rotor Ships”, also use wind energy. Similar to helicopters, Flettner Ships have large cylinders installed with a spinning device to manipulate the air flow and propel the ship forward.