

# Health risks of shipping pollution have been 'underestimated'

One giant container ship can emit almost the same amount of cancer and asthma-causing chemicals as 50m cars, study finds ●.

**John Vidal, environment editor**

Thursday 9 April 2009 10.50 EDT

Britain and other European governments have been accused of underestimating the health risks from shipping pollution following research which shows that one giant container ship can emit almost the same amount of cancer and asthma-causing chemicals as 50m cars.

Confidential data from maritime industry insiders based on engine size and the quality of fuel typically used by ships and cars shows that just 15 of the world's biggest ships may now emit as much pollution as all the world's 760m cars. Low-grade ship bunker fuel (or fuel oil) has up to 2,000 times the sulphur content of diesel fuel used in US and European automobiles.

Pressure is mounting on the UN's International Maritime Organisation and the EU to tighten laws governing ship emissions following the decision by the US government last week to impose a strict 230-mile buffer zone along the entire US coast, a move that is expected to be followed by Canada.

The setting up of a low emission shipping zone follows US academic research which showed that pollution from the world's 90,000 cargo ships leads to 60,000 deaths a year in the US alone and costs up to \$330bn per year in health costs from lung and heart diseases. The US Environmental Protection Agency estimates the buffer zone, which could be in place by next year, will save more than 8,000 lives a year with new air quality standards cutting sulphur in fuel by 98%, particulate matter by 85% and nitrogen oxide emissions by 80%.

The new study by the Danish government's environmental agency adds to this picture. It suggests that shipping emissions cost the Danish health service almost £5bn a year, mainly treating cancers and heart problems. A previous study estimated that 1,000 Danish people die prematurely each year because of shipping pollution. No comprehensive research has been carried out on the effects on UK coastal communities, but the number of deaths is expected to be much higher.

Europe, which has some of the busiest shipping lanes in the world, has dramatically cleaned up

sulphur and nitrogen emissions from land-based transport in the past 20 years but has resisted imposing tight laws on the shipping industry, even though the technology exists to remove emissions. Cars driving 15,000km a year emit approximately 101 grammes of sulphur oxide gases (or SOx) in that time. The world's largest ships' diesel engines which typically operate for about 280 days a year generate roughly 5,200 tonnes of SOx.

The EU plans only two low-emission marine zones which should come into force in the English channel and Baltic sea after 2015. However, both are less stringent than the proposed US zone, and neither seeks to limit deadly particulate emissions.

Shipping emissions have escalated in the past 15 years as China has emerged as the world's manufacturing capital. A new breed of intercontinental container ship has been developed which is extremely cost-efficient. However, it uses diesel engines as powerful as land-based power stations but with the lowest quality fuel.

"Ship pollution affects the health of communities in coastal and inland regions around the world, yet pollution from ships remains one of the least regulated parts of our global transportation system," said James Corbett, professor of marine policy at the University of Delaware, one of the authors of the report which helped persuade the US government to act.

Today a spokesman for the UK government's Maritime and Coastguard Agency accepted there were major gaps in the legislation. "Issues of particulate matter remain a concern. They need to be addressed and we look forward to working with the international community," said environment policy director Jonathan Simpson.

"Europe needs a low emission zone right around its coasts, similar to the US, if we are to meet health and environmental objectives," said Crister Agrena of the Air Pollution and Climate Secretariat in Gothenburg, one of Europe's leading air quality organisations.

"It is unacceptable that shipping remains one of the most polluting industries in the world. The UK must take a lead in cleaning up emissions," said Simon Birkett, spokesman for the Campaign for Clean Air in London. "Other countries are planning radical action to achieve massive health and other savings but the UK is strangely inactive."

The calculations of ship and car pollution are based on the world's largest 85,790KW ships' diesel engines which operate about 280 days a year generating roughly 5,200 tonnes of SOx a year, compared with diesel and petrol cars which drive 15,000km a year and emit approximately 101gm of SO<sub>2</sub>/SoX a year.

## **Shipping by numbers**

The world's biggest container ships have 109,000 horsepower engines which weigh 2,300 tons.

Each ship expects to operate 24hrs a day for about 280 days a year

There are 90,000 ocean-going cargo ships

Shipping is responsible for 18-30% of all the world's nitrogen oxide (NO<sub>x</sub>) pollution and 9% of the global sulphur oxide (SO<sub>x</sub>) pollution.

One large ship can generate about 5,000 tonnes of sulphur oxide (SO<sub>x</sub>) pollution in a year

70% of all ship emissions are within 400km of land.

85% of all ship pollution is in the northern hemisphere.

Shipping is responsible for 3.5% to 4% of all climate change emissions

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