



## OCEAN GOING VESSELS - SHIPPING – HONG KONG 'S BIGGEST POLLUTION SOURCE

From: James Middleton [mailto:dynamco@netvigator.com]

Sent: 29 November, 2012 16:12

To: kswong@enb.gov.hk; Christine Loh

Subject: FW: Hong Kong Moves to Tackle Deadly Ship Smog Fouling City's Skies - Bloomberg

Dear KS Wong

we fully support your intentions to attempt to resolve the pollution mess left by the last inept administration of Donald Tsang which failed in its duty of care to the Environment and to the people of Hong Kong.

We know Veronica Booth at Civic Exchange did a lot of work on the marine pollution problem. The information below may be of interest to you.

It's high time we had an Emissions Control Area for ships and designated Clean Air Zones (Euro 4 up/ hybrid / electric only) for roadside areas like Nathan Rd, Causeway Bay and Central.

Years ago we suggested bus routes terminating outside these areas with only hybrid shuttle buses plying the main thoroughfare routes – of course that was before we realised Donald Tsang's brother ran Citybus and First Bus.

Kind regards,

James Middleton

Chairman

[www.cleartheair.org.hk](http://www.cleartheair.org.hk)

*(herewith below the reply from the EPD's EDWARD YAU era = blame China ! of course HKG could have banned the import of high sulphur bunker fuels – but in between his 59 overseas trips in 60 months tenure YAU did not bother with that – shipping remains Hong Kong's BIGGEST POLLUTION SOURCE)*

To put the following in perspective, Hong Kong has mandatory use of Euro V diesel for road vehicles: Euro V diesel has a sulphur content of **0.001%**

From: tony\_yt\_lee@epd.gov.hk [mailto:tony\_yt\_lee@epd.gov.hk]

Sent: Monday, June 27, 2011 17:54

To: James Middleton

Cc: enquiry@epd.gov.hk; phoebelui@epd.gov.hk

Subject: E(11/1515) : Port Strategy - A new dawn

Dear Mr Middleton,

Thank you for your messages of 23 and 26 June. The consolidated reply of EPD and the Marine Department (MD) is as follows.

1. What is the actual fuel sulphur cap here?

Ans. According to Regulation 29(1) of the Merchant Shipping (Prevention of Air Pollution) Regulation, the sulphur content of any fuel oil used on board ships in Hong Kong is **not to exceed 4.5% m/m.**

2. How is this enforced for incoming vessels which refueled elsewhere?

Ans. According to Regulations 33(4) and 34 of the Merchant Shipping (Prevention of Air Pollution) Regulation, all incoming ships of 400 gross tonnage or above and engaged in international voyage shall carry Bunker Delivery Notes (BDN) with the associated



representative sample of the fuel on board. The BDN and the representative sample are subject to inspection by Government Surveyors.

3. What samples are taken to ensure the ships are conforming to "grey smoke emissions instead of black smoke"?

Ans. MD is currently using Ringelmann Chart for the identification of black smoke. If a ship emits smoke of or darker than Shade 2 for continuous 3 minutes, the emission is regarded as black smoke.

4. Since these Charter member shipping lines have opted to switch to ULSD only at berth and not whilst sailing within Hong Kong waters what has Government done to seek their compliance whilst underway rather than just at berth?

Ans. The Fair Winds Charter signatories have committed themselves to switching their vessels to 0.5% sulphur fuel when at berth. While sailing underway within HK waters, these vessels must meet the sulphur limit requirement stipulated under MARPOL Annex VI. As mentioned, since China has not designated its waters (including that of Hong Kong) as an Emission Control Area, there is no vehicle for Hong Kong to "require" operators to use fuels of more stringent specifications.

5. What is the sulphur content of bunker fuel supplied for refueling in Hong Kong?

Ans. It must be below 4.5% and is usually in the range of 3.5% - 4.0%. You may contact the local suppliers in the attached document for details or access the MD's website on the link provided for that document.

<http://www.mardep.gov.hk/en/msnote/pdf/oilsupreg.pdf> <<http://www.mardep.gov.hk/en/msnote/pdf/oilsupreg.pdf>

6. Hong Kong is supposed to be an independent territory for 50 years from 1997 is it not? We make our own laws do we not? The EPD intends to designate Low Emission Zones for traffic on Nathan Road, Causeway Bay and Central so that only Euro 5 diesels / hybrids will be allowed to enter those areas. I see no difference with doing the same for HK waters – either meet the relevant standards or do not enter our waters or be fined if you do. Using "China did not do it" is a lame duck reply more worthy of Donald Tsang than a body supposed to be looking after the air quality here, in this 50 year independent SAR.

Ans. Under MARPOL Annex VI, there are general requirements on the sulphur content of any fuel oil used on board ships. There is also a mechanism for member states of the International Maritime Organization (IMO) to apply for designating its waters as an Emission Control Area (ECA), within which the requirements are more stringent than the general requirements. This mechanism is not mandated for all member States to designate its waters, in whole or in part, as an ECA. As a matter of fact, Hong Kong is an associate member of IMO, not a full member (member state) and thus cannot file an application for ECA designation by Hong Kong itself.

Best regards,  
Tony YT Lee

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From: tony\_yt\_lee@epd.gov.hk [mailto:tony\_yt\_lee@epd.gov.hk] Sent: 27 August, 2012 11:14 To: James Middleton Cc: cwwong@epd.gov.hk; EPD HKG  
Subject: E(12/2120) IN BRIEF (Page 2)|HongKong Business|chinadaily.com.cn  
Dear Mr Middleton,

Thank you for your message. **Ships operating in the North America Emission Control Area (ECA) must use fuel containing not more than 1% sulphur. This would help reduce the ship emissions in the ECA, but not in our local waters.**

2. **Oil companies in HK normally supply bunker fuels with a sulphur content not more than 2.8%, better than the 3.5% limit stipulated in MARPOL Annex VI. We are not in a position to speak on behalf of oil companies** as to whether they would supply bunker fuels of even much lower sulphur content.

Best regards,  
Tony Y T Lee

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"James Middleton" <dynamco@netvigator.com> 24/08/2012 06:24  
To cwwong@epd.gov.hk, "EPD HKG" <enquiry@epd.gov.hk>  
Subject E(12/2120) IN BRIEF (Page 2)|HongKong Business|chinadaily.com.cn  
Dear EPD  
Does HK offer low sulphur bunker fuel in a like manner?  
If not, why not?  
Kind regards,  
James Middleton  
Chairman  
[www.cleartheair.org.hk](http://www.cleartheair.org.hk)

[http://www.chinadaily.com.cn/hkedition/2012-08/11/content\\_15664641.htm](http://www.chinadaily.com.cn/hkedition/2012-08/11/content_15664641.htm)

### **Sinopec plans low-sulfur fuel for ships**

China Petroleum & Chemical Corp, the country's largest fuel supplier, plans to supply low-sulfur shipping fuel at Chinese ports as ships sailing to the US and Canada are required to burn the cleaner fuel.

Sinopec, as China Petroleum is known, is arranging barges, tanks and pipelines to supply shipping fuel, or bunker, containing 1 percent sulfur, Zhou Yiqing, the vice manager of the bunker department at Sinopec Fuel Oil Sales Co, said in an interview by telephone. The company will start with "big" ports, he said, without elaborating.

Ships sailing in US and Canadian waters are required to use bunker fuel with a maximum sulfur content of 1 percent starting this month under air-pollution standards set out by the North American Emission Control Area. Vessels outside the controlled areas can use bunker with a maximum sulfur content of 3.5 percent.

<http://www.bloomberg.com/news/2012-11-23/hong-kong-moves-to-tackle-deadly-ship-smog-fouling-city-s-skies.html>

### **Hong Kong Moves to Tackle Deadly Ship Smog Fouling City's Skies**

By Natasha Khan & Ben Richardson - Nov 23, 2012 8:19 PM GMT+0800

Hong Kong will force oceangoing ships to burn cleaner fuel **while at berth**, bringing relief to residents facing a third straight year of near-record pollution.

The city also said it would phase out polluting trucks and buses and clamp down on smoky vehicles, according to a government release today which detailed an emissions reduction plan to 2020.

Forcing ships to switch to the more expensive, cleaner fuel may reduce the smog that causes more than 3,000 premature deaths a year in Hong Kong, where the world's highest rents, shortages of schools and the filthiest air of any global financial hub are deterring skilled workers. Vessels can now burn oil containing 3,500 times the sulfur as auto diesel sold in the city. Soot from burning marine fuel accounted for 31 percent of respirable particles in Hong Kong's air in 2008, according to the city's government.

The decision to replace the current voluntary program that international shipping companies say rewards polluters was part of a raft of measures Hong Kong and the neighboring Chinese province of Guangdong endorsed to meet 2015 air emission targets.

To contact the reporters on this story: Natasha Khan in Hong Kong at [nkhan51@bloomberg.net](mailto:nkhan51@bloomberg.net); Ben Richardson in Hong Kong at [brichardson8@bloomberg.net](mailto:brichardson8@bloomberg.net)

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<http://www.hkdf.org/newsarticles.asp?show=newsarticles&newsarticle=336>

### **Collaboration with the Mainland on Environmental Issues - A Perspective from Environment Bureau**



Christine Loh

**Ms Christine Loh Kung-wai, JP, Under Secretary for the Environment Bureau, was the Foundation's guest speaker on 20 June 2013. Below is the full text of her speech.**

- [Click to see pictures of the event](#)
- [Click to read presentation in pdf format](#)

Thank you, George. It's a pleasure to be here today and it's great to see so many old friends. Let me try and share with you a perspective from the Environment Bureau about Mainland Collaboration. I'm just going to run through this very quickly. So we'll start with how we see the importance of collaboration with the Mainland.

See if you agree with me on this [referring to slide]: Firstly, Hong Kong must collaborate with the Mainland to achieve our own goals. I will explain in a minute why this is so important. Secondly, Hong Kong has useful experience to contribute to the Mainland's effort. Thirdly, environmental protection is now a major national policy priority. The new government in China is facing severe pollution problems including air quality in north eastern China. This has propelled the national government to take the environment much more seriously. Fourthly, in my work - prior to and after joining the government - I find that the environment is a very good issue for community collaboration right here [in Hong Kong]. Lastly, people around the world are interested in both the Mainland's as well as Hong Kong's efforts in cleaning up.

This [refer to map on slide 6] is where we are. The broad circle refers to the watershed we share with the Pearl River Delta. The shared watershed starts in Yunnan Province. The Pearl River watershed is the third largest system in China. Luckily for us, it is the cleanest, least damaged watershed system of the three. So it is important that we don't make things worse. In fact, we must do everything possible to improve it. 80% of Hong Kong's fresh water we buy from China and it comes from the Pearl River's major tributary, the Dong Jiang. Of course, all the blue bits on the seaward side - that's the body of water and the coastal water we share with our neighbours.

I just want to say that we are a very small place. We have about 7 million people. The Pearl River Delta [referring to map on slide 6] has about 55 million people. The Pearl River Delta today is still one of the key export production areas in the world. There are approximately 55,000 Hong Kong owned factories. If we were to count how many ports, terminals, airports, and all kinds of infrastructure: this very small area of the world is one of the busiest. In GDP terms, this is still a very important part of not only Guangdong Province, but of the nation as a whole.



We should not be too surprised that there are a lot of emissions from this area. We need to collaborate with the authorities in this area to jointly clean up.

If I can start with air quality, you can see many days that are like that [referring to the smog image of Victoria Harbor on slide 7]. The main thing to remember is if we shut Hong Kong's emissions down, our air quality will still not reach the WHO Air Quality **Guidelines** which people talk about a lot - they are very tight standards, which very few urban places in the world can reach.

**Thus, even if we shut down all emitting activities in Hong Kong, the overall concentrations of air emissions would still be quite high.**



One of the policies that we are pushing is for the Pearl River Delta waters to become an **Emissions Control Area for ships**. The yellow bits here [referring to map on slide 8] is the emissions from ships that sail through Hong Kong waters. Here is Kwai Chung - you can see a big red blob there. This signifies an area of high pollution. Then you see blobs here and blobs here. Those are the ports of Shenzhen. The ports of Shenzhen are now ranked third in the world in terms of container throughput - it's overtaken Hong Kong. Let us not forget that the Hong Kong port and the Shenzhen ports are in fact like sister ports. Many of the companies that have invested in the terminals own facilities on both sides. Hong Kong management has had a very substantial impact on the creation and management of the ports in Shekou and in Yantian. The port of Guangzhou is now ranked 5th or 6th in world container throughput.



What I am saying is, we have three of the top ten busiest container ports in the world in our region: with Shenzhen in the 3rd place, Hong Kong in the 4th, Guangzhou in the 5th or 6th. Thus, in this tiny bit of water, we have more shipping activities than anywhere else in the world. What we need to do is to work really hard to clean up.

It's been much in the news in the last week or so about ecology and the Pink Dolphin [slide 9]. What we need to do is think about how to protect them. The Pink Dolphins' habitat is, of course, much larger than just in the waters of Hong Kong. In fact, if I were to go back one [slide] and look at this [slide 8], Hong Kong's own territorial water is within those broken lines. Our territorial water is actually very small. But we are surrounded by China's territorial water, which is much bigger.



The pink bit [on the map on slide 9] is the habitat of the Pink Dolphin. You have no doubt already realized there are already quite a lot of development activities in this whole area. Development Bureau has proposed reclamation in the western side of Hong Kong, and a third runway is also being considered. These are very major infrastructure. We have to work with Guangdong to discuss how we are going to protect the whole species of Pink Dolphin in this whole body of water.

That is not to say Hong Kong can't do more. What I am saying is if we look at [slide 9] and [slide 6 - map of Hong Kong and surrounding areas], then we understand the vital importance of collaboration with Guangdong. One of the things that we are discussing in government is how we can start or strengthen our discussion with the Mainland. It is not like there are none, and it is not like the mainland does not have its own plans for the Pink Dolphins. In fact there are. They have also declared a body of water here [referring to area of map west of Lantau Island in slide 9] to protect the Pink Dolphins. But there is much activity going on there - and it's not just infrastructure - it's also how much shipping activity there is in that very small body of water. We're discussing how to give the Pink Dolphins a better chance for survival.

Let's just name some of the things we need to do over the long term. (1) We need to clean the water that comes down from the Pearl River Estuary. (2) We need protection zones so that there's a chance for sea life to revive so the Pink Dolphins have enough food. Thirdly, (3) when we are doing infrastructure work there, like building the Hong Kong-Macau Bridge, are we doing everything possible to limit the impacts on the Pink Dolphins? And lastly, (4) what do we have to do with the marine traffic there to reduce disturbance?

There is something else that we are doing next. You may remember this goes back to Chris Patten's time: what are we going to do to clean up the water in Victoria Harbour? When I first joined the Legislative Council in 1992, I did not realize that Victoria Harbour was a public toilet. And I was shocked to find out that there was no real First World sewage system for this wonderful area here [referring to map on slide 10]. The pre-1997 government committed to a multi-billion dollar project to clean-up Victoria Harbour.



In the Legislative Council, we argued about the technology; we argued about to what level we need to clean the water. It started during Chris Patten's time [as governor] but it took till Mr. Tung's time [as the CE of HKSAR] to decide on the technology. So it took quite a few years to go from making a commitment to clean up, to identifying the technology, and then to going through the tender process, and then to getting the work started. Happily, HATS 2A [Harbour Area Treatment Scheme Stage 2A] - that's phase one - is going to finish around this time next year. And we're already seeing significant improvement in the water quality in this area.

The water is worse on this side [referring to left of the map on slide 10], because it's closer to the Pearl River Estuary; the water is cleaner on this side [referring to the right of the map on slide 10], which is why the cross harbour swim is happening here. Hong Kong people say 'How clean is it [the Victoria Harbour]?' 'It's not that clean; it's not as clean as the water in Australia.' But Hong Kong people know this because they have asked the EPD [Environmental Protection Department] to provide water quality test, so all the data is there. The folks who are organizing the cross harbour swim say Hong Kong people want to swim. This year they've already made an announcement, saying they're expecting 2,000 swimmers.

We'll also have to decide quite soon what the next phase is. The government will continue to invest billions to continue to clean up. This is important because not only should Hong Kong be cleaning up; we need the Pearl River Estuary to be cleaned up, so again collaborating with Guangdong is vital.

So how can we help to solve these problems [in the mainland]? Let me use air quality as an example. (1) Hong Kong has a small but strong air science expertise at the EPD and the universities. This community of the several tens of people are actually very good. You probably read about their comments in the newspapers from time to time. I assure you the team in Hong Kong, both in our government and in our universities, are amongst the very best in the world. They're recognized as the very best of the world; they participate in scientific research around the world. Research done in Hong Kong today can stand up to scrutiny anywhere. Secondly, (2) Hong Kong's air data is comprehensive and of high quality. We are also willing to release them. Universities who want the detailed data can get them for research purposes. We're also happy to share our data with anybody else around the world who's interested. (3) Hong Kong also has a high level of data and information transparency. And (4) the EPD and experts have longstanding relations with their top mainland counterparts. As I said, this is a relatively small

community of experts, so we all know each other and we've been sharing information and working together for a very long time. Lastly, (5) Hong Kong is well regarded internationally in this work.

We have a regional air monitoring network which was put in place during Mr. Tung's time [as the CE of HKSAR], and works very well. It is actually something the Chinese government is quite proud of. This is the system that other areas of China are asked to follow. If people from other parts of China want to develop a regional air monitoring system, they will come to look at how it's done in Hong Kong and Guangdong.

During the Beijing Olympics and the Guangzhou [Asian] Games 2010, the Hong Kong scientists, including some people from the EPD, myself included, worked alongside the teams in the mainland designated to deal with the science on air quality in providing ideas and doing some of the research.

This is the foundation upon which we're building our regional air policy: the goal for us at the Environment Bureau is to solve local-regional problems, which also helps solve national problems. The particular air quality problem in the Pearl River Delta is slightly different, but not so different, from the pollution characteristics in other parts of China. For example, when we look at regional terms, what we can do in the Pearl River Delta is of interest to people in the Yangtze River Delta. And the national policy makers in Beijing are interested to see what it is that we can all learn and turn into policy.

So, how are we going to do that? (1) We need to invest in knowledge. Environmental science involves a lot of science. We want to understand the pollution in our part of the world, which is different from that in the US and in Europe. The density of the pollution we have, the mix and the chemical reactions are different from those in other parts of the world. This is why we can't just say 'That's what they did in the US. If we have the same control measures, it will work.' We have to do our own science and figure out what mix of control policies we want. We need to invest in science. Secondly, (2) we need to invest in regional collaboration. It's not just about us doing things locally. We need to think about the whole region acting together. It's vital that we have discussion platforms and science exchanges with Guangdong.

There're also some interesting ideas in government-community collaboration. You may have heard of the Fair Winds Charter, which is a community-led effort. The shipping companies got together to basically say to the government '**You need to regulate and tell us that when our ships come and berth in Hong Kong, we switch fuels.** We know how to do this because when our ships go to North America and Europe, **we have to do it.** This is the minimum of what you should do in Hong Kong.' You can see a number of the shipping companies here [referring to slide 17] are headquartered elsewhere. Some of them are Asian companies, such as Japanese and Taiwanese. Their home ports in Asia have not done it [switching fuels at berth]. So you might ask a very interesting question: Why are the people who are stationed in Hong Kong pushing for this? I haven't asked them directly, because I don't think I need to, I can observe why they are doing it: this is their home, and they want to make a contribution.



They have reframed the Fair Winds Charter in 2013. Their effort at the beginning was directed at pressing the government to legislate. That's why they are willing to have a voluntary charter, and their members voluntarily changed to a cleaner fuel using their own finances. What they wanted to do was to push the government to legislate.

In January [2013], when CY Leung gave his first policy address, he announced that he would mandate to require fuel switching at berth. So we have adopted an idea and an effort that came from the private sector. We have consulted a much wider group beyond the members of the Fair Winds Charter. We'll be going to LegCo on 22 July to present the consultation we've done with the trade. We'll be telling LegCo that we are ready to ask the Department of Justice to draft legislation. We hope to be able to put legislation to LegCo in 2014 to go through the usual scrutiny process. So this is a huge success for the private sector.

The question in my mind now is that: are there any other sectors that are willing to come together through voluntary effort, so that they can give the assurance to the government that the private sectors and their leaders are willing to act?

There's also the idea of turning the body of the Pearl River Delta into an Emissions Control Area (noted above). When President Hu Jintao came to Hong Kong in 2012, he gave us some encouragements, one of which was for Hong Kong to work on a collaborative effort on reducing shipping emissions in the Pearl River Delta. In Chinese politics, having top level encouragement and recognition is very important. It is important for Hong Kong to have ongoing dialogue also with the central government.

The gentleman on the left is the vice governor of Guangdong [referring to the pictures on slide 20]. We were together in Guangzhou in November last year giving out certificates to a number of Hong Kong-based and Guangdong-based enterprises that were part of a Cleaner Production Partnership Program. These are companies that did well on environmental upgrade.



In 2008, the [Hong Kong] government came up with a HK\$93 million scheme to help Hong Kong-invested companies in the Pearl River Delta to clean up. It was a small sum of money but it was used to trigger people's interest in doing more. The Guangdong government also created a bigger scheme to cover Guangdong companies. In this term of government, we have put in another HK\$50 million into the scheme for the next two years. This will take us from now till the end of the Twelfth Five Year Plan. What we plan to do is to examine this project to see how we might chart a successor project and encourage more Hong Kong companies in Guangdong to clean up. It's the government working with the private sector in triggering environmental clean up on a broader basis.

Lastly, here are some other collaborative opportunities. Green building, low carbon, climate change, waste and conservation are all potential areas in which we can collaborate with the mainland.

My Minister, Mr. K S Wong, is a green architect. He's very keen on green buildings. He's chairing a cross department steering committee within the government to bring bureaus and departments together to see how we can chart a new path for greening buildings.

Another example is that Shenzhen just launched their pilot carbon exchange on 18th [June]. We were invited to attend the launch and we're talking to Shenzhen to see how Hong Kong companies might participate in their program.



My conclusion: be important. Why do I keep going on about doing more science? Why do I keep going on about more dialogue? People come to you for advice and to partner up because you know something. We have to stay at the forefront of knowledge and experience. It means we have to share what we have. It also means we have to go outside of Hong Kong to areas that have more experience than we do and know what's happening. We also have to be positive and proactive in mainland cooperation. Hong Kong has to collaborate regionally. We also have to make sure we understand what the national policies are and we can take the national policy perspective and see how we can collaborate and implement them in the Southern region. Lastly, environmental protection is a local, regional and national cause. The Hong Kong team in government and in civil society can look at ourselves as part of the national effort to clean up. Thank you very much.

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<http://www.dailymail.co.uk/sciencetech/article-1229857/How-16-ships-create-pollution-cars-world.html>

## How 16 ships create as much pollution as all the cars in the world

By [Fred Pearce](#)

UPDATED:22:13 GMT, 21 November 2009



Eco expert: Fred Pearce is an environmental consultant to New Scientist magazine

**Last week it was revealed that 54 oil tankers are anchored off the coast of Britain, refusing to unload their fuel until prices have risen.**

**But that is not the only scandal in the shipping world. Today award-winning science writer Fred Pearce – environmental consultant to New Scientist and author of Confessions Of An Eco Sinner – reveals that the super-ships that keep the West in everything from Christmas gifts to computers pump out killer chemicals linked to thousands of deaths because of the filthy fuel they use.**

We've all noticed it. The filthy black smoke kicked out by funnels on cross-Channel ferries, cruise liners, container ships, oil tankers and even tugboats.

It looks foul, and leaves a brown haze across ports and shipping lanes. But what hasn't been clear until now is that it is also a major killer, probably causing thousands of deaths in Britain alone.

As ships get bigger, the pollution is getting worse. The most staggering statistic of all is that just 16 of the world's largest ships can produce as much lung-clogging sulphur pollution as all the world's cars.

Because of their colossal engines, each as heavy as a small ship, these super-vessels use as much fuel as small power stations.

But, unlike power stations or cars, they can burn the cheapest, filthiest, high-sulphur fuel: the thick residues left behind in refineries after the lighter liquids have been taken. The stuff nobody on land is allowed to use.

Thanks to decisions taken in London by the body that polices world shipping, this pollution could kill as many as a million more people in the coming decade – even though a simple change in the rules could stop it.

There are now an estimated 100,000 ships on the seas, and the fleet is growing fast as goods are ferried in vast quantities from Asian industrial powerhouses to consumers in Europe and North America.

The recession has barely dented the trade. This Christmas, most of our presents will have come by super-ship from the Far East; ships such as the Emma Maersk and her seven sisters Evelyn, Eugen, Estelle, Ebba, Eleonora, Elly and Edith Maersk.

Each is a quarter of a mile long and can carry up to 14,000 full-size containers on their regular routes from China to Europe.



Waiting game: Tankers moored off Devon waiting for oil prices to rise even further

Emma – dubbed SS Santa by the media – brought Christmas presents to Europe in October and is now en route from Algeiras in Spain to Yantian in southern China, carrying containers full of our waste paper, plastic and electronics for recycling.

But it burns marine heavy fuel, or ‘bunker fuel’, which leaves behind a trail of potentially lethal chemicals: sulphur and smoke that have been linked to breathing problems, inflammation, cancer and heart disease.

James Corbett, of the University of Delaware, is an authority on ship emissions. He calculates a worldwide death toll of about 64,000 a year, of which 27,000 are in Europe. Britain is one of the worst-hit countries, with about 2,000 deaths from funnel fumes. Corbett predicts the global figure will rise to 87,000 deaths a year by 2012. Part of the blame for this international scandal lies close to home.

In London, on the south bank of the Thames looking across at the Houses of Parliament, is the International Maritime Organisation, the UN body that polices the world’s shipping.

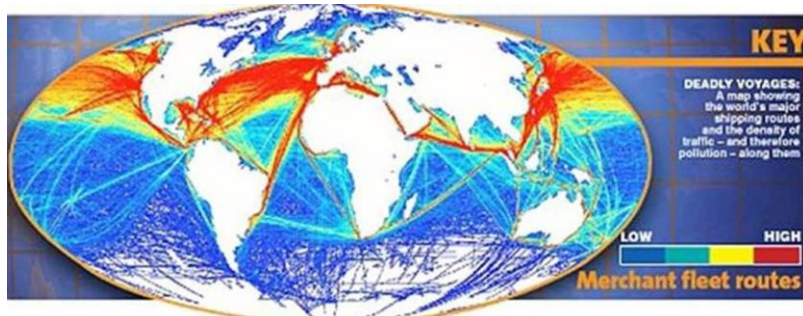
For decades, the IMO has rebuffed calls to clean up ship pollution. As a result, while it has long since been illegal to belch black, sulphur-laden smoke from power-station chimneys or lorry exhausts, shipping has kept its licence to pollute.

For 31 years, the IMO has operated a policy agreed by the 169 governments that make up the organisation which allows most ships to burn bunker fuel.

Christian Eyde Moller, boss of the DK shipping company in Rotterdam, recently described this as ‘just waste oil, basically what is left over after all the cleaner fuels have been extracted from crude oil. It’s tar, the same as asphalt. It’s the cheapest and dirtiest fuel in the world’.

Bunker fuel is also thick with sulphur. IMO rules allow ships to burn fuel containing up to 4.5 per cent sulphur. That is 4,500 times more than is allowed in car fuel in the European Union. The sulphur comes out of ship funnels as tiny particles, and it is these that get deep into lungs. Thanks to the IMO’s rules, the largest ships can each emit as much as 5,000 tons of sulphur in a year – the same as 50 million typical cars, each emitting an average of 100 grams of sulphur a year.

With an estimated 800million cars driving around the planet, that means 16 super-ships can emit as much sulphur as the world fleet of cars.





A year ago, the IMO belatedly decided to clean up its act. It said shipping fuel should not contain more than 3.5 per cent sulphur by 2012 and eventually must come down to 0.5 per cent. This lower figure could halve the deaths, says Corbett.

It should not be hard to do. There is no reason ship engines cannot run on clean fuel, like cars. But, away from a handful of low-sulphur zones, including the English Channel and North Sea, the IMO gave shipping lines a staggering 12 years to make the switch. And, even then, it will depend on a final 'feasibility review' in 2018.

In the meantime, according to Corbett's figures, nearly one million more people will die.

Smoke and sulphur are not the only threats from ships' funnels. Every year they are also belching out almost one billion tons of carbon dioxide. Ships are as big a contributor to global warming as aircraft – but have had much less attention from environmentalists.

Both international shipping and aviation are exempt from the Kyoto Protocol rules on cutting carbon emissions. But green pressure is having its effect on airlines. Ahead of next month's Copenhagen climate talks, airlines have promised to cut emissions by 50 per cent by 2050.

But shipping companies are keeping their heads down. A meeting of the IMO in July threw out proposals from the British Chamber of Shipping, among others, to set up a carbon-trading scheme to encourage emissions reductions.

Amazingly, they pleaded poverty. Two-thirds of the world's ships are registered in developing countries such as Panama. These are just flags of convenience, to evade tougher rules on safety and pay for sailors.

But at the IMO, governments successfully argued that ships from developing countries should not have to cut carbon emissions. IMO secretary-general Efthimios Mitropoulos insisted: 'We are heavily and consistently engaged in the fight to protect and preserve our environment.' Yet without limits, carbon emissions from shipping could triple by 2050.

The failure brought calls for the IMO to be stripped of its powers to control the world's ships. Colin Whybrow, of Greenwave, a British charity set up to campaign for cleaner shipping, says: 'The IMO is drinking in the last-chance saloon.'

Burning low-sulphur fuel won't cut carbon emissions from ships. But there are other ways. More efficient engines could reduce emissions by 30 per cent, according to British marine consultant Robin Meech.

Cutting speed could reduce emissions by as much again. And there are even wackier ways, such as putting up giant kites to harness the wind as in the days of sailing ships.

However you look at it, the super-ships are rogues on the high seas, operating under pollution standards long since banished on land; warming the planet and killing its inhabitants. Santa's sleigh, they are not.

Robert Pedersen, of Maersk, said: 'The sulphur content varies according to where you get your fuel. Our average sulphur content is, I believe, 2.5 per cent. It's rather rare you get anything close to 4.5 per cent.' He added that 'the sulphur issue is one for the whole industry' and that there would be a 'huge cost implication' to switch to cleaner fuel.

Read more:

<http://www.dailymail.co.uk/sciencetech/article-1229857/How-16-ships-create-pollution-cars-world.html#ixzz2MfeqpweH>

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