

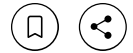


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# CFCs were banned to protect the ozone layer. Replacement HFCs are just as bad for environment.

*Published October 30, 2015*

*Updated October 30, 2015*



Greenhouse gas emission. AP file photo



hydrofluorocarbons, a class of ozone-friendly coolants developed to replace CFCs that have turned out to be incredibly potent greenhouse gases, thousands of times more effective at warming the planet than more common emissions like carbon dioxide and methane.

The US and Europe have taken measures to ban HFCs and are pushing other countries to do the same, as well as offering financial aid to help poorer countries switch to newer refrigerants.

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Environmentalists say they fear another round of chemical bans could invigorate the worldwide black market in restricted coolants, which are generally cheaper than their replacements. Under the Montreal Protocol, developing countries have been allowed to keep producing some coolants barred in the US and Europe for several years, creating a ready supply for traffickers.

“There’s an enormous amount of money to be made,” said Dr Shamila Nair-Bedouelle, head of OzonAction, a United Nations agency that oversees worldwide compliance with the chemical bans.

### Hiding Places

Illicit chemicals have been shipped inside containers of oranges and glass ornaments, hidden in canisters-within-canisters designed to fool port inspectors and squirrelled away on fishing boats plying the South-China Sea. In Canada, authorities say one company imported banned coolants inside used jet cockpits, turning them into the industrial equivalent of drug mules

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In June, customs officials in the United Arab Emirates seized more than 13,000 empty refrigerant cylinders at the Port of Ajman that authorities believe were destined to be filled



International, have responded with education campaigns and surveillance programs. They've also conducted joint raids with local authorities.

"People talk about it as having the same profit as drugs without the same risks," said Mr Julien Soulet, Honeywell's managing director for Europe, the Middle East, and India.

### Black Market

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About 3,700 tons of banned refrigerants flow through East Asia and the Pacific region alone each year, a haul worth about US\$68 million (S\$95 million) in 2013, according to a UN report. Most of it comes from China, the world's leading producer of refrigerants. Some chemicals are exported to countries where the coolants are still legal, but a portion finds its way to brokers who also serve the black market.

The middlemen ship to ports across Asia, often using front companies in the Philippines and Indonesia that divert materials to the US, Europe, and Russia, the report said. In April the UN said a program designed to connect customs officials across borders stopped the transfer of 545 tons of ozone-depleting substances in 2014.

### Port Explosions

In 2011 refrigerated shipping containers exploded in Brazil, China, and Vietnam, killing three port workers. Investigators determined coolant in the containers' systems had been blended with methyl chloride, a World War II-era chemical that sells for about 25 cents a pound, a fraction of what legal refrigerants cost.

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US prosecutors are stepping up enforcement against companies that buy illegal refrigerants, said Ms Drusilla Hufford, director of the Environmental Protection Agency's stratospheric protection division. In 2014 an air-conditioning company in Miami was fined US\$275,000 and sentenced to five years' probation after pleading guilty to importing a



In the heyday of refrigerant smuggling in the 1990s and 2000s, chemical traffickers could get “a better return on their investment than cocaine,” without the risk of mandatory minimum sentences imposed on drug dealers, according to Mr Thomas Watts-Fitzgerald, an assistant US attorney who’s prosecuted cases in Miami, a hot spot for illegal chemical shipments.

Cheaper substitutes and a crackdown by law enforcement have dimmed the allure, he said, though smugglers can still turn a healthy profit. In 2010, US prosecutors won a conviction against St Louis-based Mar-Cone Appliance Parts Co for illegally importing more than 100 tons of HCFCs, another ozone-eating chemical. The company probably cleared a 40 per cent profit, Mr Watts-Fitzgerald estimated.

“There’s a phenomenal amount of this stuff still out there,” he said. “We could backslide.”  
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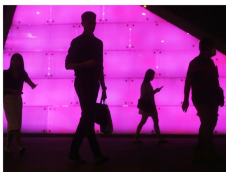
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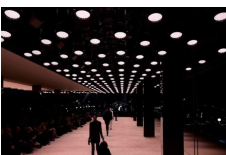
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