# Cruise ship emissions in Cork Harbour exceed WHO soot limits by 250 times, raising urgent health alarms



Recent air quality measurements in Cork Harbour have highlighted alarming levels of pollution linked to cruise ships, raising serious public health concerns for residents in nearby residential areas. Findings suggest that the levels of ultrafine soot particles in these communities surpass safe limits recommended by the World Health Organization by over 250 times. Kåre Press-Kristensen, a senior advisor at Green Global Future, noted that readings reached as high as 250,000 particles per cubic centimetre, far exceeding the WHO's safe threshold of 1,000 particles per cubic centimetre. Such high pollution levels are alarming and indicative of a broader, ongoing crisis linked to maritime fuel emissions.

Ola Løkken Nordrum from Irish Doctors for the Environment emphasised the substantial health risks associated with fossil fuel pollution. Annual global deaths attributable to air pollution, particularly from fossil fuels, are estimated at around seven million, making this a critical issue that requires decisive action, particularly for communities located near busy ports. He argued that limiting cruise ship access to Irish ports is a logical step, pointing out that the adverse effects of air pollution stem not only from ship emissions but also from noise pollution and the considerable greenhouse gas contributions made by the cruise industry.

The measurements were coincidentally taken during a visit by the Norwegian Star to Cobh, illustrating the potential dangers of increased maritime traffic. These concerns have prompted calls for immediate investment in shore power facilities in Cobh, making it possible for cruise ships to use electricity from the grid rather than relying on diesel engines while docked. Press-Kristensen argued that this shift could eliminate local pollution, improve public health, and ensure that the costs of installation are offset by the fees collected from ships using the service.

These local challenges are echoed in a broader context across Europe. A recent investigation in the UK revealed a disturbing trend where many cruise ships docked at Southampton, the largest cruise port in Britain, failed to utilise onshore power systems. Between April 2022 and July 2023, although ships were docked roughly 300 days, the onshore power facilities were only employed 71 times. The reluctance to switch is attributed to the higher costs associated with onshore electricity compared to traditional marine fuels, exacerbating environmental and health concerns tied to cruise tourism.

Conversely, regulatory improvements are encouraging better practices in maritime operations. Earlier this year, Ireland supported the establishment of a new International Maritime Organization Northeast Atlantic Emission Control Area aimed at reducing air pollution from vessels in its waters. Dr Sian Prior, a lead advisor with the Clean Arctic Alliance, noted that this initiative requires ships to adopt cleaner fuels with lower black carbon emissions, thus potentially lessening the atmospheric impacts that are progressively affecting climate patterns, especially in sensitive regions like the Arctic.

Research has further revealed the severe implications of particulate matter generated from cruise ships, with evidence suggesting that inhaling such black carbon particles is not only harmful to human health but also a significant factor in climate change. When these particles settle in the Arctic, they contribute to ice melt, which can trigger irreversible climate changes.

Efforts to combat these air quality challenges must extend beyond infrastructure improvements. Dave Walsh, advisor to the Clean Arctic Alliance, insists that immediate action is required from governmental authorities to enact stricter fuel regulations for ships operating in and out of Irish ports. By mandating the use of cleaner fuels and implementing shore power as a standard practice for cruise vessels, there exists a viable pathway to protect the health and wellbeing of communities like those surrounding Cork Harbour.

As the cruise industry continues to expand, the urgent need for comprehensive measures to mitigate environmental impacts becomes increasingly clear. Stakeholders must navigate the balance between economic opportunities presented by the tourism sector and the imperative to uphold public health standards. Without sustainable practices, the health of populations residing near busy maritime traffic is poised to remain at risk, underlining the necessity for collective action and frameworks that prioritise both health and the environment.

## Reference Map:

* Paragraph 1 – [[1]](https://cyprusshippingnews.com/2025/05/26/cruise-ships-bombarding-cork-harbour-residents-with-dangerous-levels-of-air-pollution/)
* Paragraph 2 – [[1]](https://cyprusshippingnews.com/2025/05/26/cruise-ships-bombarding-cork-harbour-residents-with-dangerous-levels-of-air-pollution/), [[2]](https://www.theguardian.com/environment/2023/nov/04/cruise-ships-polluting-uk-coast-as-they-ignore-greener-power-options)
* Paragraph 3 – [[1]](https://cyprusshippingnews.com/2025/05/26/cruise-ships-bombarding-cork-harbour-residents-with-dangerous-levels-of-air-pollution/), [[4]](https://www.mdpi.com/2077-1312/13/3/453)
* Paragraph 4 – [[2]](https://www.theguardian.com/environment/2023/nov/04/cruise-ships-polluting-uk-coast-as-they-ignore-greener-power-options)
* Paragraph 5 – [[1]](https://cyprusshippingnews.com/2025/05/26/cruise-ships-bombarding-cork-harbour-residents-with-dangerous-levels-of-air-pollution/), [[5]](https://www.businessinsider.com/cruise-ship-air-pollution-carnival-cars-europe-study-2023-6)
* Paragraph 6 – [[6]](https://www.hongkongcan.org/op___articles/cruise-ship-emissions-cause-hazardous-no2-levels/), [[7]](https://pubmed.ncbi.nlm.nih.gov/19604052/)
* Paragraph 7 – [[3]](https://www.theguardian.com/travel/2017/jul/03/air-on-board-cruise-ships-is-twice-as-bad-as-at-piccadilly-circus)
* Paragraph 8 – [[1]](https://cyprusshippingnews.com/2025/05/26/cruise-ships-bombarding-cork-harbour-residents-with-dangerous-levels-of-air-pollution/)
* Paragraph 9 – [[3]](https://www.theguardian.com/travel/2017/jul/03/air-on-board-cruise-ships-is-twice-as-bad-as-at-piccadilly-circus), [[4]](https://www.mdpi.com/2077-1312/13/3/453)

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## Bibliography

1. <https://cyprusshippingnews.com/2025/05/26/cruise-ships-bombarding-cork-harbour-residents-with-dangerous-levels-of-air-pollution/> - Please view link - unable to able to access data
2. <https://www.theguardian.com/environment/2023/nov/04/cruise-ships-polluting-uk-coast-as-they-ignore-greener-power-options> - An investigation by openDemocracy found that cruise ships regularly fail to use onshore power at Southampton, Britain's largest cruise port. Between April 2022 and July 2023, there were about 300 days when at least one cruise ship was docked at the port, but the onshore power facility was only used 71 times over the same period. Some ships have not been adapted to use cleaner onshore power, but the UK Chamber of Shipping says one factor is cost, because onshore power is more expensive than marine fuel. Cruise firms can also pay for their ships to be retrofitted with new technology so they can use cleaner onshore power.
3. <https://www.theguardian.com/travel/2017/jul/03/air-on-board-cruise-ships-is-twice-as-bad-as-at-piccadilly-circus> - An undercover investigation found that the air quality on cruise ships is twice as bad as at London's Piccadilly Circus. Measurements on P&O Cruises' ship Oceana revealed 84,000 ultra-fine particulates per cubic centimetre on the deck downwind of the ship's funnels, more than double the amount found at London's Piccadilly Circus, where the number of ultra-fine particulates per cubic centimetre was 38,400. Dr. Matthew Loxham, a specialist in air pollution at the University of Southampton, said these were the levels of pollution you would expect to find in cities such as Delhi or Shanghai. He added that pollution causes adverse health effects even in the short term, including symptoms such as runny nose, cough, dry eyes, or a higher risk of asthma attacks.
4. <https://www.mdpi.com/2077-1312/13/3/453> - A study published in the journal 'Water' discusses the application of shore-side power as a method to reduce greenhouse gas emissions by cruise ships. Connecting to shore-side electricity enables ships to turn off their engines while docked, which can reduce emissions by up to 98%, depending on the energy source mix. As of 2022, 40% of the global cruise fleet capacity is equipped to connect to onshore power systems, with nearly all (98%) new-build ships committed to integrating this technology. The implementation of onshore power supply is considered a critical component in the cruise industry’s strategy for decarbonization and represents an indispensable investment to secure continuous access to key cruise destinations, mitigate local air quality concerns associated with cruise ship emissions, and foster a more sustainable model of cruise tourism.
5. <https://www.businessinsider.com/cruise-ship-air-pollution-carnival-cars-europe-study-2023-6> - A study from The European Federation for Transport and Environment found that 63 cruise ships owned by Carnival Corporation emitted 43% more sulfur oxides than all the 291 million cars in Europe in 2022. The statistic, while jarring, is a significant decrease from a few years ago, when the organization found ships owned by Carnival Corporation that visited European ports in 2017 emitted 10 times more sulfur oxides than all of Europe's cars. The drop is largely thanks to a 2020 rule from the International Maritime Organization that lowered the sulfur content limit of ship fuel from 3.5% to 0.5%. Though the IMO rule slashes the sulfur emissions of individual ships, it has done nothing to limit the increasing number of cruise ships in recent years. Compared to 2019, cruise ships are also spending more time at European ports and consuming more fuel, per the report.
6. <https://www.hongkongcan.org/op___articles/cruise-ship-emissions-cause-hazardous-no2-levels/> - In November 2023, the Clean Air Network (CAN) monitored the air quality in the Kai Tak Cruise Terminal Rooftop Park to compare pollution levels with and without cruise berthing. The results showed that with one cruise ship docked, the nitrogen dioxide (NO2) concentration was as high as 96.1 µg/m³, exceeding the annual average standard (10 µg/m³) set out in the WHO Global Air Quality Guidelines by almost nine times. Nitrogen dioxide is a nitrogen oxide that irritates the eyes, nose, throat, and respiratory system, causing symptoms such as coughing, wheezing, and shortness of breath, worsening the condition of asthma and respiratory illnesses. Long-term exposure to NO2 will also weaken lung function and immunity to respiratory diseases.
7. <https://pubmed.ncbi.nlm.nih.gov/19604052/> - A study published in the journal 'Atmospheric Environment' discusses the airborne emissions in the harbour and port of Cork. The study highlights that many vessels use old engines powered with old technology, leading to high levels of particulate emissions, mainly because the fuel employed contains high levels of sulphur, up to 4.5%. Large amounts of polyaromatic hydrocarbons and varying contents of transition metals are also detected. The study emphasizes the need for comprehensive analysis and characterization of the contributing subsectors, including shipping, to understand the impact on health and climate.