

**Ministry of Transport's
Consultation on MARPOL
Annex VI: Treaty to
reduce air pollution in
ports and harbours**

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Submitter details

1. Nelson Marlborough Health (Nelson Marlborough District Health Board) (NMH) is a key organisation involved in the health and wellbeing of the people within Te Tau Ihu o Te Waka a Maui. NMH appreciates the opportunity to comment from a public health perspective on *Ministry of Transport's Consultation on MARPOL Annex VI: Treaty to reduce air pollution in ports and harbours*.
2. NMH makes this submission in recognition of its responsibilities to improve, promote and protect the health of people and communities under the New Zealand Public Health and Disability Act 2000 and the Health Act 1956.

General Comments

3. NMH welcomes the Ministry of Transport for considering whether New Zealand should accede to Annex VI of the International Maritime Organization (IMO) treaty's International Convention for the Prevention of Pollution from Ships (MARPOL). Annex VI is considered to be the primary international regulatory mechanism for mitigating maritime greenhouse gases (GHG) and other air pollutants. New Zealand is very reliant on shipping with 99.5% of trade (by weight) being shipped by sea, and the number and size of ships is increasing¹. NMH recommends that NZ accedes to Annex VI because by doing so NZ will be better able to regulate emissions that are harmful to public health.
4. The Ministry of Health's report² on the MARPOL Annex VI shows that there are three compelling reasons to accede to the Annex:
 - a. Reduced emissions of harmful air pollutants will result in reduced adverse public health effects (and costs), including premature deaths;
 - b. Reduced emissions of harmful air pollutants will result in reduced adverse effects on ecosystems (e.g. acidification, deposition of toxics such as heavy metals and dioxins); and
 - c. Reduced greenhouse gas emissions are a tangible action to combat climate change (an issue of planetary urgency).

¹ Ministry for the Environment & Stats NZ (2018). *New Zealand's Environmental Reporting Series: Our air 2018*
<http://www.mfe.govt.nz/sites/default/files/media/Air/our-air-2018.pdf>

² Ministry of Health (2019) *MARPOL Annex VI: Air quality, climate change and health issues for New Zealand*
Emission Impossible Ltd

5. NMH supports the accession because the Nelson Marlborough region is serviced by major ports at Nelson and Picton. This accession will bring reduced emissions to key townships in our region.

Specific Comments

Question 1: New Zealand's stated ambition is to be a global leader on climate change and strengthen our credibility and influence in international climate negotiations. To enable New Zealand to influence climate change policy at the IMO we need to accede to Annex VI and be at the table to influence decisions. Do you agree?

6. Yes. NMH notes that 91 other countries³ have already signed up to Annex VI, and that New Zealand and Israel are the only two OECD countries that have not ratified the Annex as of December 2018. Conversely New Zealand has participated in negotiations that saw the adoption of the International Maritime Organisation's Greenhouse Gases Strategy that seeks to reduce GHG emissions from international shipping in line with the goals for the Paris Agreement. By not ratifying the Annex, the New Zealand government is sending mixed messages to the international community and to New Zealanders about whether New Zealand is committed to improving planetary and public health. By acceding to Annex VI, domestic ships and international ships visiting NZ waters would need to comply with the low-sulphur limits for marine fuels which will reduce ship air pollution thus improving health impacts.
7. As noted in the Cabinet Paper, NZ has stated it would bolster efforts to tackle priority issues for the Pacific especially climate change⁴. By acceding the Annex, New Zealand would have the ability to represent Pacific Island countries at IMO negotiations if those countries are unable to attend.

Question 5: What are the public health benefits of acceding to Annex VI?

8. Research has shown that by acceding to Annex VI and the IMO's proposed new global standards to limit sulphur in fuel oil to 0.5% after 1 January 2020, will reduce sulphate aerosols and provide health benefits to exposed populations. Cleaner marine fuels will reduce ship-related premature mortality by 34% and

³ Marten, B., (2016) *Shipping and Air Pollution: New Zealand's Failure to Ratify Marpol Annex VI* (April 22, 2016). (2016) 30 Australia and New Zealand Maritime Law Journal 90; Victoria University of Wellington Legal Research Paper No. 3/2018. Available at SSRN: <https://ssrn.com/abstract=3059252>

⁴ <https://www.transport.govt.nz/assets/Uploads/Multi-Modal/Consulting-on/Accession-to-International-Maritime-Organization-Treaty-MARPOL-Annex-VI-Cabinet-paper.pdf>

morbidity by 54%, representing a 2.6% global reduction in PM_{2.5} (particulate matter (PM)) cardiovascular and lung cancer deaths and 3.6% global reduction in childhood asthma⁵.

9. According to WHO, air pollution causes 7 million annual, premature deaths, and is now the single biggest environmental health risk⁶. Short-term exposure to sulphur dioxide (SO₂) can harm the human respiratory system and make breathing difficult. SO₂ emissions that lead to high concentrations of SO₂ in the air can contribute to PM pollution which can cause additional health problems.⁷ Internationally, shipping contributes about 13% of total sulphur oxide emissions resulting in nearly 7% of lung and cardiovascular disease mortality and about 3.6% of childhood asthma morbidity⁸. NMH notes that the Ministry for the Environment's emissions inventory used to estimate SO₂ does not include international shipping so SO₂ (and nitrogen oxides) emissions from shipping are currently underestimated in NZ.⁹
10. From 1 January, 2020, IMO will require that all fuels used in ships of countries which have acceded Annex VI will contain no more than 0.5% sulphur, this is a significant reduction from the existing 3.5% cap. Worldwide, the public health benefits are predicted to be the prevention of 150,000 premature deaths and 7.6 million childhood asthma cases annually.
11. A 2013 GNS Science Consultancy Report¹⁰ undertaken for the Nelson City Council found that emissions from ship traffic at the Port of Nelson constitute a significant portion of measured PM₁₀. The Ministry of Health Report on MARPOL showed that over 20,000 people in Nelson and nearly 3000 people in Picton lived within 3km of ports.² In addition, NMH notes that the number of cruise ships continues to increase with cruise ships spending more time in NZ ports.¹¹ Cruise ships burn heavy fuel oil and those ships require abatement technology (scrubbers) to meet Annex VI requirements when visiting Annex VI requirements. However, many

⁵ Sofiev, M., Winebrake, J., Johansson, L. (2018) Cleaner fuels for ships provide public health benefits with climate tradeoffs, Nature Communications Volume 9, Article number: 406 (2018) Retrieved from:

<https://www.nature.com/articles/s41467-017-02774-9#rightslink>

⁶ https://www.who.int/phe/health_topics/outdoorair/databases/en/

⁷ <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#effects>

⁸ Sofiev, M., Winebrake, J., Johansson, L. (2018) *Cleaner fuels for ships provide public health benefits with climate tradeoffs*, Nature Communications Volume 9, Article number: 406 (2018) Retrieved from:

<https://www.nature.com/articles/s41467-017-02774-9#rightslink>

⁹ <http://www.mfe.govt.nz/sites/default/files/media/Air/our-air-2018.pdf>

¹⁰ Davy, P.K.; Trompetter, W.J (2010) Davy, P.K.; Trompetter, W.J.; Markwitz, A. 2010. Source Apportionment of PM₁₀ in Tahunanui, Nelson, GNS Science Consultancy Report 2010/198. 64p.

¹¹ <https://newzealandcruiseassociation.com/cruise-tourism-projected-to-contribute-695m-to-economy-by-2019/>

cruise ships do not use scrubbers in NZ as regulations do not require it.¹² On average, each cruise ship docked in port per visit typically emits 2,620kg of NO_x (equivalent to the daily emissions of 210,000 cars) and 290kg of PM₁₀ (equivalent to 280,000 cars).² Given the number of people living in close proximity to local ports, NMH recommends that MARPOL VI is adopted and enforced in order to improve the region's air quality and thus reduce the risk of future health harms from pollution from ships.

Question 6: What are the public health costs of acceding to Annex VI?

12. NMH has not identified any public health costs of acceding.

Question 8: Are there any public health or other environmental issues that we should be aware of when considering accession to Annex VI?

NMH supports the switch to low-sulphur fuels because there will be health benefits but also notes that this will also reduce radiative cooling from ship aerosols by about 80%. The reduction of the atmospheric sulphur content will result in a reduced radiative cooling effect that could potentially lead to warmer global temperatures. Therefore, assenting to Annex VI and GHG Strategy must be accompanied by additional measures that reduce marine air pollution and greenhouse gas emissions as well as reducing harmful pollutants such as sulphur gases⁴.

Conclusion

13. NMH thanks the Ministry of Transport for the opportunity to comment on the *Consultation on MARPOL Annex VI: Treaty to reduce air pollution in ports and harbours*.

Yours sincerely



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¹² Cropp A, 2018. "[Cruise ship pollution in the spotlight after vessels busted in Alaska come to NZ](#)". Stuff. 27 October 2018.