

**New Zealand's potential accession to International Maritime Organization treaty:  
MARPOL Annex VI: Prevention of Air Pollution from Ships**

**Discussion document**

November 2018

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## This consultation

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This consultation seeks submissions on New Zealand's potential accession to MARPOL<sup>1</sup> Annex VI: Prevention of Air Pollution from Ships (Annex VI).

Your feedback is important to enable advice to be provided to Government on whether New Zealand should accede to Annex VI.

Annex VI and its amendments is available online at:  
[www.transport.govt.nz/ourwork/currentlyconsultingon](http://www.transport.govt.nz/ourwork/currentlyconsultingon).

## How to be involved

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### How to send us your feedback

Submissions can be made by email or post to:

- [maritime@transport.govt.nz](mailto:maritime@transport.govt.nz) with the words "MARPOL Annex VI submission" in the subject line; or
- MARPOL Annex VI submissions, PO Box 3175, Wellington 6140.

You should indicate in your submission whether it would be acceptable, if required, for officials from the Ministry of Transport to contact you to discuss your submission. If you need more information to assist you in preparing a submission, please contact Brian Nijman at [b.nijman@transport.govt.nz](mailto:b.nijman@transport.govt.nz).

The deadline for submissions is **Monday 11 February 2019**.

### How we will use your submission

We will consider all responses received to develop recommendations to Government.

A summary of submissions will be published on the MARPOL Annex VI page at: [www.transport.govt.nz/ourwork/currentlyconsultingon](http://www.transport.govt.nz/ourwork/currentlyconsultingon). This summary may include the names of the organisations or individuals that make submissions. It will not include contact details.

### Your submission may be made public

Anyone can ask for your submission under the Official Information Act 1982.

If you don't want something in your submission released, you should let us know what material you want withheld, and why, at the time you make your submission.

Under the Official Information Act, we decide whether to release or to withhold material and can only withhold information in accordance with the provisions set out in that Act. Further information is available at [www.legislation.govt.nz](http://www.legislation.govt.nz).

### Next steps

We will receive feedback from you on behalf of the Minister of Transport and the Associate Minister of Transport.

We will take into consideration all views submitted on the consultation paper. We will then provide our advice to the Government on whether New Zealand should accede to Annex VI.

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<sup>1</sup> Full title: The International Convention for the Prevention of Pollution From Ships 1973, as modified by the Protocol of 1978.

## Section 1 – Background and overview

### Maritime treaties

The International Maritime Organization (IMO) is the United Nations' specialist agency with responsibility for the safety and security of shipping and the prevention of pollution from ships. In this capacity, the IMO is the global standards setting authority for international shipping. Its main role is to create a treaty-based regulatory framework for the shipping industry that is fair, effective and universally implemented.

New Zealand relies on international shipping to move some 98 percent (by weight) of its imports and exports. The international maritime regulatory system provides a consistent, predictable framework that has steadily raised safety, security and environment protection standards without compromising the efficiency of international shipping.

As a trading nation, heavily reliant on shipping, New Zealand values this global system and the opportunity, as an IMO member state, to influence regulatory developments.

The IMO regulatory regime is built around three core treaties:

- The International Convention for the Safety of Life at Sea, which relates to ship safety and security
- The International Convention on Standards of Training, Certification and Watch keeping for Seafarers, which relates to seafarer training and certification; and
- MARPOL, which relates to pollution from ships.

This consultation relates specifically to Annex VI of the MARPOL treaty.

### MARPOL

MARPOL was the IMO's first comprehensive treaty to address maritime pollution. MARPOL has six Annexes; two compulsory and four optional. The type of pollution, and matters relating to MARPOL are outlined below.

**Table 1: MARPOL annexes and New Zealand treaty status**

<b>Annex</b>	<b>Pollution source</b>	<b>Title</b>	<b>New Zealand treaty status</b>
<b>I</b>	Oil	Prevention of pollution by oil	Yes
<b>II</b>	Noxious liquid substances	Control of pollution by noxious liquid substances in bulk	Yes
<b>III</b>	Packaged substances	Prevention of pollution by harmful substances in packaged form	Yes
<b>IV</b>	Sewage	Prevention of pollution by sewage from ships	No
<b>V</b>	Garbage	Prevention of pollution by garbage from ships	Yes
<b>VI</b>	Air	Prevention of air pollution from ships	No

## Annex VI

Annex VI came into force for party States on 19 May 2005. Its regulations apply to ships registered (flagged) to these States, and ships, whether flagged to Annex VI party States or not, visiting the ports of party States.

Annex VI primarily responds to two global problems related to shipping emissions:

- impacts on human health and environments in port communities from maritime pollution, and
- contributions to climate change and ozone layer depletion.

Annex VI addresses these problems by

- regulating air pollutants that are harmful to humans, including sulphur oxides, nitrogen oxides, and soot;
- regulating greenhouse gases (GHGs) and ozone depleting substances; and
- setting out requirements for reception facilities and Port State Control, and requirements for Party States to enable their ships to demonstrate compliance with energy efficiency regulations when entering the ports of other Party States.

Over 96 percent of international maritime trade, including almost all ships involved in New Zealand's international trade, is carried on ships registered to States that have acceded to Annex VI.

## Section 2 – Why is New Zealand considering becoming a Party to Annex VI?

There are a number of potential benefits for New Zealand associated with acceding to Annex VI. These are outlined below.

### *Protecting New Zealand's trade interests and advancing effective mitigation measures*

Being a Party to Annex VI will improve New Zealand's ability to protect its maritime trade interests and support effective measures to reduce GHG emissions.

Both existing and new measures to implement the Strategy are likely to be regulated under Annex VI. Being a Party to Annex VI will make it possible for New Zealand to fully participate in negotiations regarding the design and implementation of new maritime regulations.

New measures for inclusion in the Strategy are likely to be negotiated from 2020 and implemented in 2023. These measures will have significant implications for New Zealand, which is highly dependent on both a stable global climate and international maritime trade.

One carbon dioxide (CO<sub>2</sub>) reduction measure that could be negotiated and implemented before 2023 that could affect our maritime trade interests is *slow steaming* (ship speed reduction). We need to ensure the application of slow steaming does not have disproportionate trade or operational impacts, given our distance from markets.

### *Providing for easier movement of New Zealand flagged ships to other countries*

Any New Zealand flagged vessel wishing to visit the port of a State that has acceded to Annex VI must abide by Annex VI requirements. Some New Zealand coastal trading and fishing vessels visit Australia and Singapore (Annex VI Party States) to access dry dock facilities for maintenance and repair, given capacity constraints in New Zealand. New Zealand's accession to Annex VI would make it easier for domestic ships visiting overseas ports as they would be able to operate under uniform IMO rules regardless of where they are in the world.

### *Promoting the interests of Pacific Island countries*

Strengthening New Zealand's influence in the IMO on climate change policy will also help us to promote the interests of Pacific Island countries and territories. Most Pacific Island countries and territories are unable to attend IMO negotiations and rely on other countries like New Zealand to represent their interests.

### *Improving public health and regulating greenhouse gases*

Domestic regulations to implement Annex VI would reduce GHG emissions and make a contribution to improving air quality in some New Zealand ports frequented by domestic ships.

Air quality around New Zealand ports will also benefit as all ships would need to comply with new air quality regulations while visiting New Zealand. If New Zealand accedes to Annex VI it will be able to inspect visiting ships to ensure they are complying with new regulations.

### *Improving New Zealand credibility and influence on climate policy*

Annex VI is likely to be the primary international regulatory mechanism for mitigating maritime GHG emissions as well as other air pollutants. Acceding to Annex VI would align with New Zealand's stated ambition to be a global leader on climate change and strengthen our credibility and influence in international climate negotiations.

In April 2018, New Zealand participated in negotiations that saw the adoption of the IMO GHG Strategy (the Strategy). This Strategy seeks to reduce international GHG emissions from international shipping, in line with the goals for the Paris Agreement.<sup>2</sup>

It may be difficult for New Zealand to continue arguing for ambitious action to reduce maritime emissions if it continues to free ride on the global benefits provided by Annex VI.

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<sup>2</sup> The Paris Agreement provides a framework for the global response to climate change. One of its goals is keep the global average temperature well below 2°C above pre-industrial levels, while pursuing efforts to limit the temperature increase to 1.5°C.

### Section 3 – The potential impacts of becoming a Party to Annex VI

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There are a number of potential costs that will impact New Zealand operators if we were to accede to Annex VI. These are outlined below.

#### *Impacts on the domestic shipping sector*

From 1 January 2020, all ships flagged to Annex VI Party States will have to comply with a lower sulphur fuel limit of 0.5 percent. Currently the allowable limit is 3.5 percent.

New Zealand's accession to Annex VI would affect some of our domestic ships, most significantly by making them subject to this new limit on sulphur in fuel.

This new limit would primarily affect ships over 400 gross tonnages. These vessels use residual fuel that meets the current Annex VI sulphur limit of 3.5 percent by mass, but not the 0.5 percent limit set to come into force in 2020.

These ships would face compliance costs associated with Annex VI fuel sulphur content regulations.

There are three ways for ships to meet the requirements if we become party to Annex VI:

- use 0.5 percent sulphur residual fuel, which could be more expensive as it may be difficult to source, or
- switch to diesel which is more expensive than residual fuel and may require the recalibration of engines, or
- upgrade to newer ships that are more fuel efficient or that are fitted with abatement technology.

These compliance options will increase costs in the short term. In terms of price hierarchy, 3.5 percent sulphur residual fuel will remain the cheapest fuel, while 0.5 percent sulphur fuel will be cheaper than diesel.

#### *Impact on the supply of marine fuel*

Marsden Point supplies residual fuel at the current sulphur limit of 3.5 percent to New Zealand's domestic shipping fleet and to foreign ships refuelling in our ports. Marine diesel is currently produced domestically at Marsden Point as well as being imported.

It is unclear what impact New Zealand's accession to Annex VI could have on the supply of marine fuel. Consultation would help provide a clearer picture of the potential impact if New Zealand were to accede to Annex VI.

#### *Impact of greater diesel use for the environment and public health*

Should the new low sulphur limits be applied in New Zealand from 2020, most demand for marine fuel would be expected to shift from residual fuel to probably marine diesel, if adequate supplies of low sulphur can't be sourced. Distillate fuels, such as diesel are cleaner for the environment and better for human health. However, some diesel additives, such as aromatics (which replaced lead in petrol) that improve fuel performance, are harmful. Some additives, such as benzene, are carcinogens.

Overall, however, the health impacts of emitting sulphur, particulate matter and heavy metals from burning unfiltered residual fuel have a worse effect on the environment and public health.



## Section 4 – Questions associated with accession to Annex VI

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In order to provide advice to enable the Government make a decision on whether or not to accede to Annex VI, your views are sought. Submissions will inform subsequent advice to Cabinet including a National Interest Analysis (NIA) which assesses Annex VI from the perspective of its impact on New Zealand and New Zealanders. The NIA will also include economic modelling to quantify the costs and benefits of accession.

Your views on the questions below are important to enable us shape subsequent advice to Government on whether New Zealand should accede to Annex VI. Please provide as much detail as possible including references to examples and/or published material.

### *Improving New Zealand credibility and influence on climate policy*

Annex VI is likely to be the primary international regulatory mechanism for mitigating maritime GHG emissions as well as other air pollutants.

Q1. 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? Please provide a detailed response. If you don't agree please provide reasons why.

### *Protecting New Zealand's trade interests and advancing effective mitigation measures*

Annex VI addresses GHG emissions (primarily CO<sub>2</sub>) from international shipping, through the following instruments:

- Ship Energy Efficiency Management Plan (SEEMP), an operational measure; and
- Energy Efficiency Design Index (EEDI), relating to the design and propulsion of new ships and those having undergone major conversion.

Slow steaming, not currently mandated by the IMO, is one way in which ships on international voyages can reduce fuel consumption and CO<sub>2</sub> emissions. New Zealand needs to ensure the application of slow steaming (especially if mandated through the Strategy) does not have disproportionate trade or operational impacts, given our distance from markets.

Q2. What are the costs associated with complying with SEEMP and EEDI requirements?

Q3. What are the benefits associated with the EEDI and SEEMP requirements?

Q4. What does New Zealand need to bear in mind on slow steaming when considering accession to Annex VI? Please provide as much detail as possible.

### *Improving public health*

When fossil fuels are burnt, compounds harmful to human health, including nitrogen oxides, sulphur oxides and particulate matter, are released into the atmosphere.

- Q5. What are the public health benefits of acceding to Annex VI?
- Q6. What are the public health costs of acceding to Annex VI?
- Q7. Are there any cost and benefits resulting from accession to Annex VI for the marine and built environments?
- Q8. Are there any public health or other environmental issues that we should be aware of when considering accession to Annex VI?

### *Providing for easier movement of New Zealand flagged ships to other countries*

Any New Zealand flagged vessel wishing to visit the port of a State that has acceded to Annex VI must abide by Annex VI requirements.

- Q9. How would accession to Annex VI affect the limited number of domestic ships that visit overseas ports in Party States?
- Q10. If we do not accede to Annex VI what are the issues that are likely to arise for the limited number of domestic ships that visit overseas ports in Party States?
- Q11. Are there any other issues affecting New Zealand ships visiting the ports of Party States we should be aware of?
- Q12. If we do not accede to Annex VI do you have any suggestions as to how to deal with New Zealand ships visiting overseas ports in Party States?

### *Low sulphur fuel*

The global limit for the sulphur content of marine fuel will be strengthened to 0.5 percent from 1 January 2020, and will apply to all ships registered to Annex VI Party States. Residual fuel that meets the 0.5 percent sulphur limit will cost more to produce than 3.5 percent sulphur fuel.

- Q13. What are the benefits of moving to fuel with a sulphur limit of 0.5 percent?
- Q14. What are the costs associated with moving to a low sulphur fuel limit of 0.5 percent?
- Q15. How easy would it be for the global shipping industry to source 0.5 percent sulphur fuel?
- Q16. Would Marsden Point be able to produce low sulphur fuel?
- Q17. If yes, would Marsden Point be able to produce enough quantities of low sulphur fuel at reasonable cost?
- Q18. If not, where and how will international visiting ships obtain their low sulphur fuel?
- Q19. How would a low sulphur fuel requirement affect our domestic shipping industry?
- Q20. If low sulphur fuel is unavailable, is diesel the most likely option that will be used?
- Q21. What are the benefits of switching to diesel?
- Q22. What are the costs of switching to diesel?

- Q23. Are ships likely to continue using 3.5 percent fuel but with abatement technology?
- Q24. What are the costs associated with using abatement technology?
- Q25. What are the benefits of using abatement technology?
- Q26. How easy will it be to install abatement technology in ships already in service?
- Q27. Are there any other considerations apart from price that is likely to be taken into account when deciding to switch fuels or use abatement technology?
- Q28. Would current reception facilities at ports be able to cope with the requirements of Annex VI?
- Q29. If not, what are the additional costs associated with providing additional reception facilities?
- Q30. If low sulphur fuel could not be locally produced, what will happen to the 3.5 percent sulphur fuel currently produced as a by-product of the refining process?

#### *Impact on diesel powered vessels*

Annex's VI's NO<sub>x</sub> requirements apply to new marine diesel engines greater than 130 kilowatts (kW) in power, installed on vessels constructed on or after January 1, 2000, or which undergo a major conversion after that date. Compliance with NO<sub>x</sub> emission requirements is ascertained through survey and certification, leading to the issue of an Engine International Air Pollution Prevention Certificate.

- Q31. Are there any costs and/or benefits or any associated industry concerns around the NO<sub>x</sub> requirements when considering accession?
- Q32. How many New Zealand vessels are likely to be affected by the NO<sub>x</sub> requirements?

#### *Other issues*

Ships over 5,000 gross tonnes, which account for the vast majority of CO<sub>2</sub> emissions from international shipping, are required to submit annual fuel consumption data to their Flag State (or designated Recognised Organization) for submission to the IMO. The anonymised data will inform the IMO GHG Strategy.

- Q33. Are there likely to be any problems associated with providing annual fuel consumption data?

MARPOL's provisions do not apply to ships solely engaged in domestic voyages. However, each Party should ensure that ships are constructed and act in a manner consistent with MARPOL, so far as is reasonable and practicable.

- Q34. How would acceding to Annex VI affect the domestic shipping sector?
- Q35. What are the benefits and costs for the domestic sector of Annex VI?

#### *Additional questions*

- Q36. Are there any other issues not considered above, but which you deem important and need to be factored in when considering the costs and benefits of accession to MARPOL Annex VI?
- Q37. Having taken all of the above into consideration, should New Zealand accede to Annex VI?

*Indicative timeline*

Following the completion of consultation, the Ministry would analyse submissions before providing advice to Government together with an NIA on whether or not to accede to Annex VI. It is anticipated that a decision will be made by Cabinet in the first half of 2019. If the Government decides that New Zealand should accede to Annex VI, the steps outlined in the table below are required before accession can take place.

<b>Treaty making step</b>	<b>Indicative Timing</b>
• A Parliamentary Select Committee considers the National Interest Analysis (NIA) and treaty text and reports back to the House of Representatives	Quarter 2, 2019
• NIA and treaty text considered by the House of Representatives	Quarter 2, 2019
• Government agencies complete work on regulatory amendments required to implement the treaty in domestic law	Quarter 3 2020
• New Zealand deposits instrument of accession with the IMO	Quarter 4, 2020
• Annex VI comes into force for New Zealand three months after depositing instrument of accession.	Quarter 1, 2021

Q38. If New Zealand is to accede to Annex VI, is 2021 a reasonable timeframe to bring the requirements into effect? Please provide your reasons for your answer.