

Meeting: Port Botany Community Consultative Committee – Meeting No. 10

Held: Tuesday 1 March 2016, 5.30pm-7.30pm
SICTL Training Room, 1 Sirius Road Botany

Present:

Charles Abela (CA) – Community	Luke Frawley (LF) – DP World
John Burgess (JB) – Community	John Harvison (JH) – Patricks Stevedores
Lynda Newnam (LN) – Community	Dave Dogger (DD) – Patricks Stevedores
Paul Pickering (PP) – Community	Michael Martin (MM) – Vopak
Mal Jagdev-Imrich (MJ) – Community	Aldo Costabile (AC) – Elgas Limited
Ross Salter (RS) – Mitre 10 Kingsford	Joshua Chambers (JC) – Elgas Limited
James Goodwin (JG) – EPA representative	Craig Osborne (CO) – Caltex
Larissa Borysko (LB) – EPA representative	Jessykah Miles (JM) – SICTL Stevedores
Janice Dennany – Randwick City Council	Alison Wedgwood (AW) – NSW Ports
Ann-Louise Crotty (ALC) – EPA	Trevor Brown (TB) – NSW Ports
Ryan Bennett (RB) – Port Authority of NSW	Wayne Ashton (WA) – NSW Ports
Roberta Ryan (RR) – Chairperson	
Sandra Spate (SS) – Minute taker	

Apologies: Jean-Michel Tremsal – Vopak, Adem Long – NSW Ports, Karen Jones – Orora, Bronwyn Englaro – Randwick Council, Catherine McMahon – Botany City Council, Steve Poulton – Botany Bay Council, Andrew Battye – SafeWork NSW, Neil Truskett – Patrick Stevedores, Dr Jos Kusters – Caltex, Gary McKay – Caltex, Daniela Vujic – NSW Ports, Lisa Williams – Member for Maroubra

Item	Description	Action/ Responsibility
1	Apologies and Introductions Apologies are listed above. Botany Bay Council offers sincere apologies for non attendance due to injuries to their two representatives.	
2	Accept minutes of last meeting Acceptance of the minutes from the last meeting was moved by MJ and seconded by RB. The minutes were accepted.	
3	EPA Presentation on Shipping Emissions Study	
3.1	Ann-Louise Crotty delivered a presentation to the meeting on shipping emissions (attached to the minutes). She noted the evolving role of the EPA which has had minimal involvement in shipping emissions until recently. She noted a recent report by DNVGL and a report released in January by health experts, CSIRO, and the Australian Maritime College looking at health impacts of shipping in NSW. The Commonwealth Government is responsible for the regulation of shipping emissions in accordance with international obligations. Standards for vehicle emissions are regulated by the commonwealth. The EPA is looking at all sources of emissions and particularly particles. Sub sets include diesel emissions from shipping, mining and locomotives. There is a focus on low sulphur fuel for shipping. The current requirement in Australia is for up to 3.5% sulphur. The requirement for cruise ships in Sydney Harbour is up to 0.1% sulphur.	
3.2	PP asked what the main concern is for sulphur. ALC replied it is a contributor to particles. With high levels of sulphur	

	<p>dioxide there are high levels of particles which have health impacts such as respiratory impacts. EPA is talking more of health impacts than greenhouse gases.</p> <p>PP asked whether SO₂ is corrosive.</p> <p>CA suggested it forms sulphuric acid in rain. He asked what the sulphur levels are for diesel for trucks.</p> <p>ALC replied it is 10 parts per million or 0.00001%.</p> <p>CA noted the difference between that and 3.1%.</p>	
3.3	<p>TB reported NSW Ports participation in strongly advocating for a national response as there is a potential for shifting trade from shipping to other modes. Rail has more intensive emissions than shipping. He asked whether there is a desire for a national approach in the EPA report. He asked when the report is due.</p> <p>ALC replied that the EPA will report to government on feedback including the industry desire for a national approach. It will then have to be taken up with the Commonwealth Minister. The report is due within the next few months. Next steps will have to be a whole of government decision.</p>	
3.4	<p>JH asked whether the studies would extend to port equivalents, for example, diesel powered cranes.</p> <p>ALC replied there is a focus on port equipment and all sources of diesel equipment. The PAE Holmes report looked at a reduction in ports not just in shipping.</p>	
4	Actions arising from previous minutes	
4.1	<p>Action 3.2 August 2015 (arising from 11.1 from March 2015) SH to inform the CCC of the RMS response regarding the issue of the verge on Foreshore Road.</p> <p>AW reported SH had written to RMS a number times but NSW Ports has received no response. She will keep the CCC updated if there is anything to report. The action remains open.</p> <p>WA reported a speed camera has been installed at the Botany Road, Foreshore Road intersection but is not active yet.</p>	Action 3.2 August 2015 remains open.
4.2	<p>Action 6.8 August 2015. JH to identify for the CCC a contact in the joint logistics business.</p> <p>Dave Dogger will replace JH on the CCC and will represent Patrick and the logistics business unless the CCC is otherwise advised.</p>	
4.3	<p>Action 9.2 December 2015. EPA be invited to present on ship emissions to the next meeting.</p> <p>This was done tonight. The action is closed.</p>	
4.4	<p>Action 10.2 December 2015. Port Authority of NSW to consider whether to extend seagrass monitoring in light of groyne construction.</p> <p>RB informed the CCC that there is no decision at this stage. PAoNSW will wait to see how monitoring progresses until 2017. There is no requirement to monitor beyond 2017. He believes groynes may help seagrass.</p> <p>JB's concern is that monitoring ends in 2017 under conditions of approval, but it needs to be extended past groyne construction which wasn't included in the original approval. This is a change, a shift in policy and design for the small amount of beach the community has left. He believes it is a Ports issue and needs Ports and Planning to take responsibility. Someone needs to drive this.</p> <p>Action remains open.</p>	Action 10.2 from December 2015 remains open.
4.5	<p>As part of a discussion around legal requirements and arising from questions at the August meeting RS asked whether the limit of 90 trucks a day from Elgas is still current.</p> <p>AC replied that is still the current limit but there are generally about half that number daily.</p>	

5	Port Botany community assets - Updates on Foreshore Beach groynes and Penrhyn Estuary - RB	
5.1	- Updates on Foreshore Beach groynes RB reported tenders have been received for the Foreshore Beach groyne and evaluation of these is in progress. There is no change to the scope of the project. The tender process is hoped to be complete by the end of March to commence construction at the end of April and finish by the end of November. An update will be provided at the next meeting.	
5.2	- Penrhyn Estuary RB noted that there is not much to report on Penrhyn Estuary monitoring for shorebird, seagrass and saltmarsh . The last Benthic invertebrate monitoring is in the last annual report and invertebrate monitoring occurred last year. Port Authority of NSW is committed additional to seagrass monitoring prior to groyne construction to identify sensitive seagrass and take measures to protect it. There are minor patches of <i>Posidonia australis</i> remaining.	
5.3	JB asked that a formalised request be submitted to Port Authority of NSW from the CCC for longer term seagrass monitoring in light of groyne construction even though there is no formal requirement for PAoNSW to do so. There has not been much success to date with rehabilitation of seagrass. He fears additional damage may occur with groyne construction, though groynes may encourage seagrass to return. He will talk offline to PAoNSW about the potential for 'cray weed' which encourages lobsters and which the Recreational Fishing Saltwater Trust has had some success with. This area was a commercial crayfish area. LN supported JB's proposal. The Conditions of Consent were predicated on expert opinion that we wouldn't get degradation but we have. CA noted that with the groyne at La Perouse seagrasses were covered up with sand. JB noted artificial reefs that have been installed can't be found as wave action has now covered them with sand. The CCC agreed to a formal request from the CCC to the Port Authority of NSW for extended seagrass monitoring. JB thought it would be positive if Botany Council was also involved with additional monitoring of seagrass. RB noted the unusual condition of RMS owning the area but the Port Authority having a long term lease for care and management.	The CCC formally requests Port Authority of NSW extend seagrass monitoring beyond 2017 to assess impacts of construction of groynes on Foreshore Beach.
5.4	LN asked whether there will be habitat creation on the groynes such as the flowerpots at Farm Cove. RB replied the assessment indicates minor ancillary habitat creation. It is a sheet pile groyne not a rock groyne as this will cause least impact. There will be some rock groyne extended into the water. But the project has already gone out to tender so there will be no fundamental changes to the design. LN suggested this is unfortunate as she has raised this on a number of occasions. RB noted the purpose of the groyne is for management of beach sand which is smothering the seagrass.	
6	Port Botany Expansion Construction Update - Update on construction activities - SICTL and Patrick - Environmental monitoring - SICTL monthly reports	
6.1	- Update on construction activities – SICTL JM reported construction has been completed for Phase 2 and no further	


	<p>construction on site is planned at this stage.</p> <p>Regarding the stockpile SICTL is waiting on approval from EPA for removal of 6,000 cubic metres of pH hot spots. Once this is done SICTL can then remove the rest. There have been random checks for fire ants with none detected. Further sampling will be undertaken.</p> <p>JG noted a lot of regulatory framework around waste to minimise unlawful activity. He will follow up within the EPA the approval request from SICTL.</p>	
	<p>- Update on construction activities – Patrick</p> <p>JH reported Patrick is finalising commissioning of new quay cranes which are expected to be operational by the next meeting. With the site in its final arrangement there is no further construction planned.</p> <p>AW noted with documentation submitted to the Department of Planning at the end of construction Patrick construction can come off the agenda</p>	
7	Port Botany Expansion Operational Update – SICTL	
	<p>- SICTL</p> <p>JM reported that monthly environmental updates are no longer required with no further construction. Recent water sampling and noise monitoring results are on the SICTL website.</p>	
	<p>- Patrick</p> <p>DD reported that with three new quay cranes being commissioned which should be on line in 6 to 8 weeks. One redundant crane will be removed in the same timeframe.</p>	
8	<p>Development activities in the Port</p> <ul style="list-style-type: none"> - NSW Ports/ Port Authority of NSW developments - Tenant developments 	
8.1	<p><u>NSW Ports developments</u></p> <p>There are no new NSW Ports developments</p>	
8.2	<p><u>DP World</u></p> <p>LF reported DP World is developing the area of Lot 13 as an empty container stacking area. This should be complete in 6 weeks.</p> <p>LN asked how many containers would be stacked as a maximum. LF doesn't know at this stage. He will provide feedback to the CCC when information is available.</p> <p>WA expressed concern with heights as the area is next to the NSW Ports pipeline corridor with fuel and gas travelling through pipes. He has concerns of impacts from falling containers in strong winds.</p> <p>LF replied that stacks won't be higher than current stacks. Winds shouldn't affect the stacks as they are predominantly from the south east.</p> <p>LN asked who does the risk assessment for this.</p> <p>AW replied that as a complying development Planning is not involved. Negotiations will occur between DP World and NSW Ports regarding operational activities.</p> <p>TB noted it is a tenant/ landlord discussion.</p>	
8.3	<p><u>Elgas</u></p> <p>There are no developments.</p>	
8.4	<p><u>Vopak</u></p> <p>MM reported the vehicle project planning is in its final stages with a modification to existing approval going back to the Department of Planning prior to being put on public exhibition in 2 to 3 weeks. The modification is around through put and increasing truck bays.</p> <p>LN asked to clarify whether the Vopak submission for a new development is on exhibition.</p> <p>MM replied there are two DAs. The new one will be on exhibition in the next 2 or 3 weeks.</p>	<p>MM to respond to the CCC as to whether the new Vopak DA will be state significant and whether it will include a traffic study.</p>

	<p>LN asked whether it is state significant. MM will check and respond</p> <p>RS asked whether there will be a traffic risk assessment. He would like to find out before it goes on exhibition.</p> <p>MM will check to see if traffic study is associated with the DA. If so it would be included in the public exhibition.</p> <p>RS is interested to see if a transport risk study is included.</p>	
8.5	<p>Caltex</p> <p>CO reported there were no new developments but the diesel stop is now open.</p>	
9	<p>Port Botany Noise Update</p> <ul style="list-style-type: none"> - Update on Port Botany Noise Working Group – JG - Update on EPA Noise Monitoring - JG - Port Botany Expansion Rail Noise (as per CoA 2.28) – AW 	
9.1	<ul style="list-style-type: none"> - Update on EPA Noise Working Group – JG <p>JG reported there was little to update the committee on. JG noted that in the area of environmental planning there were new arrangements getting established for the roles of the Department of Planning and the Greater Sydney Commission. There are some interdepartmental discussions continuing to place.</p>	
9.2	<ul style="list-style-type: none"> - Update on EPA Noise Monitoring - JG <p>JG reported the main message from noise monitoring undertaken is that the EPA is using the results to look at what our licensing can do and discussions are underway with licensees. The EPA proposes a focussed noise monitoring exercise on audible warning alarms during cooler weather.</p> <p>Monitoring has occurred on top of NSW Ports building. EPA has tried to link noise sources measured on the Ports building with the noises measured back at residential areas. This has been challenging and so the focussed noise monitoring will try and look at the noise signatures of individual alarms.</p> <p>Some licensees are voluntarily looking into changing audible noise alarms to reduce their impacts. Currently the actual overall levels of noise are not that high but if alarms go on at 2am this understandably has impacts. But alarms are not the only source of noise.</p> <p>JG offered to explain the detail of the noise monitoring to any of the members of the CCC.</p>	
9.3	<p>LN proposed a forum to bring key stakeholders together with residents who experience noise issues. It would be broader than Ports stakeholders. She said the issues with the Noise Working Group have been going for a long time. She asked where this is heading. There needs to be leadership from the EPA and Council. She asked what consultation had taken place with Orora. She also suggested Randwick Council be put on notice.</p> <p>RR asked how it would differ from this forum.</p> <p>LN replied it would be a different group of residents, a community meeting for people who the EPA knows are most affected by port noise. RR's understanding was that the initial proposal was for the EPA to lead a port noise group by bringing key stakeholders together with cross government buy in. There have been difficulties getting through the whole of government process.</p> <p>JG said the EPA fell into the lead by default. He suggested protecting resident amenity going forward is most appropriately managed as a planning issue. More people are expected to be moving into the area at the same time as the Ports is proposing to expand throughputs and so planning is the best way to manage impacts, for example through appropriate design features in new developments. The challenge is that what started was looking at what agencies are collectively doing soon</p>	

	<p>identified a need for developing a more detailed strategy. Questions remain around who funds it and how it is managed. The process has dragged on</p> <p>RR asked whether there is anything this group can do to enable movement on the issue.</p> <p>JG noted the working group hasn't met for around 18 months. They are still working out funding but work on monitoring has progressed. Regarding Orora they looked at the new noise wall and how it is integrated with other measures, and looked at whether Orora is brought onto the committee. As part of the EPA's input to the planning process for Orora's new noise walls, the function of screening noise from residents was raised.</p> <p>LB reported the design of the noise wall has now been finalised.</p> <p>AW reported the new representative on the committee from Orora is Karen Jones but she was unable to attend tonight. She will request that Orora provides an update on the noise wall at the next meeting.</p> <p>LN proposed a letter to residents regarding what it looks like to be followed by an EPA led forum on noise. Give residents an update as the process has dragged on. Orora would attend as well as others around this table. She suggested it would also be good to know how much Randwick Council collects from this area and how much goes back to affected residents.</p> <p>RR asked what this group can do. Can we expect to see something by next meeting to reflect on?</p> <p>JG noted EPA submits comments on planning documents. They are a small player in the planning space but they are a regulatory player. Longer term it is a planning issue.</p> <p>AW said that even though there has been little progress to progress the working group, individual stakeholders are still pursuing actions to manage impacts. There is no one organisation responsible overall. EPA is undertaking monitoring and is in contact with licensees and Ports has had achievements with the Patrick's logistics joint venture converting all reversing beepers to quackers. NSW Ports is also working with the Patrick terminal safety representative around turning off or turning down a couple of alarms. There are small advances by targeting problems bit by bit even though the working group has not progressed. NSW Ports makes constant submissions to Government around land use planning and zoning.</p> <p>LN stressed that a lot of people in the area don't have the benefit of this group. It would be nice to update them. She asked who is the person to write to.</p> <p>JG noted current situation the Department of Planning and the Greater Sydney Commission currently working out roles.</p> <p>LN said that under the proposed council amalgamations part of the new Botany Rockdale would be in the Central District of the Greater Sydney commission and part would be in the Southern District.</p> <p>JD reported Randwick Council has a submission in on boundary lines.</p> <p>TB wouldn't realistically expect government to hold a forum unless it had something to say. As key agencies are not here he would support a letter to the Minister for Planning from this group around strategic noise monitoring, buffer zones and the need for State Government Planning buy in to the process.</p> <p>The CCC agreed to send a letter from the group to the Minister for Planning.</p>	<p>A letter to be drafted from the CCC to the Minister for Planning around strategic noise monitoring, buffer zones and the need for State Government Planning buy in.</p>
9.4	<p>- Port Botany Expansion Rail Noise (as per CoA 2.28) – AW</p> <p>Port Botany Expansion Rail Noise (as per CoA 2.28) – AW</p> <p>There were no issues to report.</p>	

10	Safety and Environmental Incidents/Complaints <ul style="list-style-type: none"> - Port traffic and safety - Bio security update – AW - Summary of complaints – AW 	
10.1	<ul style="list-style-type: none"> - Port traffic and safety – Foreshore Road condition – SH <p>AW noted there is nothing to add to the previous discussion. A truck rolled at the Penrhyn Road / Foreshore Road intersection last week. Hopefully the speed camera will help control speeds in the intersection. WA reported this was dealt with by RMS and police with the road closed for half hour.</p> <p>LN noted the incident was disruptive. She asked what caused it. WA suggested it may have been due to taking the corner too fast. LN said it is an issue with this behaviour seen too often.</p>	
10.2	<ul style="list-style-type: none"> - Bio security update – AW <p>AW reported there have been no other issues with fire ants. The Department of Primary Industries continues to monitor.</p> <p>WA reported that there was baiting last month as part of the baiting program. NSW Ports and Patrick attended a bio security forum last week around awareness raising.</p> <p>JB noted fire ant issues in Brisbane again. He asked whether there is any truth behind speculation of a new mosquito from South America infesting the Port.</p> <p>WA replied that no information has been provided to NSW Ports suggesting this is correct</p>	
	<ul style="list-style-type: none"> - Summary of complaints <p>AW reported there has been one noise complaint since last meeting from the Banksmeadow area just before Christmas which was described as being general industrial noise. Ports are mapping locations of complaints and weather conditions at the time to capture data over time. There is a downturn in complaints over summer.</p> <p>WA reported after hours complaints to NSW Ports can be directed to the Bulk Liquids Berth where wind direction and speed is recorded at the time to help identify the source of the complaint.</p>	
11	Communications <ul style="list-style-type: none"> - DPE Community Consultative Committee Guidelines for Review – RR - NSW Ports website review – AW 	
11.1	<ul style="list-style-type: none"> - DPE Community Consultative Committee Guidelines for Review <p>RR noted an opportunity to submit feedback to the Department of Planning and Environment around their new Community Consultative Committee Guidelines. There is nothing in the guidelines that this committee doesn't operate within with one exception. Changes in relation to the chair and appointment of new members we have been doing anyway. The only exception is asking members to sign pecuniary interest forms. New members here were asked whether there was a conflict of interest. She doesn't see that pecuniary interests would affect people here. However, when the guidelines are finalised forms will be issued to ensure compliance with the new guidelines.</p> <p>AW clarified that this committee was nominated to fulfil the role of the Port Botany Expansion Community Consultative Committee required under the Project Approval and therefore previous members of that committee signed agreements.</p> <p>RR suggested if members wished there could be a joint submission from the committee. She has asked the Department for more background information as it seemed to come out of the blue.</p> <p>LN suggested there was consultation with the chairs of about 100</p>	

	<p>committees, mostly to do with mining and wind. She doesn't think they have an understanding of community consultation. They didn't review existing committees or research documents.</p> <p>JB suggested they were looking for a way to tighten up local government consultation, including chairs of precinct committees and establish codes of conduct as if committee members were council employees. This restricts the ability to discuss issues and voice opinions. The timing seemed to link with local government issues.</p> <p>RR said submissions could be made as individuals. If from the group they need to be submitted and approved by the Group.</p> <p>CA asked whether it was mandatory to sign a code of conduct.</p> <p>RR replied that some members here have done so.</p> <p>AW suggested it may be timely to think of the status of this committee as the official Community Committee required under the PBE Conditions of Approval. Patrick and SICTL construction work is now complete and the OEMPs cover operation. She suggests reviewing the applicability of agenda items. It was recommended committees continue for two years after construction with requirements to submit minutes to Planning.</p> <p>RR suggested looking at this as an action when the guidelines are finalised.</p>	
11.2	<p>- NSW Ports website review – AW</p> <p>AW reported on a review of the NSW Ports website. She asked for feedback on the current website, issues in using it and additional things people would like to see included.</p> <p>LN suggested all the minutes be in one place. She said people can no longer get hold of Sydney Ports minutes and the Port expansion and Enfield originally came under them.</p> <p>AW said the all the minutes from the PBCCC are on NSW Ports website.</p> <p>LN said the NLG minutes are not there nor ancillary material such as the Commission of Inquiry report and relevant material. It should all be in one place though it predates NSW Ports.</p> <p>AW replied that NSW Ports has put on the website what has to be there and other material is available on request. There is a large amount of information and they need to balance this with ease of use. She is happy to take requests for specific documents. The concern with Port Botany expansion being on the Port Authority website is that they no longer have control over Port Botany, Enfield or Cooks River. Responsibility now sits with NSW Ports. The review of the website was driven by difficulties finding information and concerns that it is not done in a presentable manner.</p> <p>LN suggested a random survey of people navigating the website or a telephone survey of people in the area.</p> <p>TB suggested an alternative would be to post a survey on the website for people who actually access the website to comment on ease of navigating it. AW will raise this suggestion internally. They are trying to identify who is using the website and what pages are most often accessed to target the update.</p>	
12	<p>General Business/Next meeting :</p> <p>- NSW Ports Staff Update</p> <p>JB raised concerns of potential impacts on reclaimed wetlands and mangroves from the 3,000sq metres at the end of the airport After reports around the Williamtown Air Base the EPA is undertaking a project looking at other locations state-wide where PFCs have been used in fire fighting training. They have been potentially been used at some of the licensed facilities around here. EPA will be in contact with licensees on a risk basis as part of the project.</p> <p>JB reported a public invitation to a workshop to talk of impacts of those products at airports. He is surprised the EPA wasn't part of the group.</p>	

	<p>He is still concerned with impacts here and wonders with the recent fish kill could have been related to a fire fighting exercise at the airport. JG raised concerns of potential impacts on reclaimed wetlands and mangroves from the 3,000sq metres at the end of the airport. After reports around the Williamtown Air Base the EPA is looking at other locations state-wide where perflourinated compounds (PFCs) have been used in fire fighting exercises. They have been used at Sydney airport. EPA is in contact with licensees on a risk basis but there are jurisdictional problems for EPA on commonwealth property. JB has asked the EPA to look at all airports in particular Sydney and the Gold Coast but acknowledges the jurisdictional issues.</p> <p>JB reported an invitation to a workshop to talk about PFC impacts at airports. He is surprised the EPA wasn't aware of the workshop. JB will send details to JG. JB is still concerned with possible PFC impacts upon Botany bay and wonders if last year's fish kill could have been related to a fire fighting exercise at the airport.</p>	
	<p>Next meeting is 31 May 2016 PP is an apology for the next meeting</p>	
	<p>These minutes have been endorsed by the meeting Chair</p> <p>Signed:  Date: 23/03/2016</p>	



Shipping emissions

1 March 2016

Port Botany Community Consultative
Committee

Ann-Louise Crotty

Manager Air Policy

NSW Environment Protection Authority

1

Role of the EPA in shipping emissions

- Improve evidence base on shipping emissions in NSW
- Commission and publish expert reports:
e.g. feasible emission reduction options (DNV.GL 2015)
- Work with NSW agencies and Commonwealth government
- Consult with stakeholders e.g. via meetings & workshops
- Support work of health experts
- Update EPA regulatory framework, when agreed by gov't, and monitor compliance

2

EPA Diesel and marine emissions management strategy



Strategies to reduce diesel emissions and exposure across

- Mining and construction equipment
- Locomotives
- Shipping
- Government purchasing and contracts
- Clean Machine program e.g. DP World in Port Botany retrofit of 9 rubber tyre gantry cranes - 1.3 tonnes of particles reduced pa

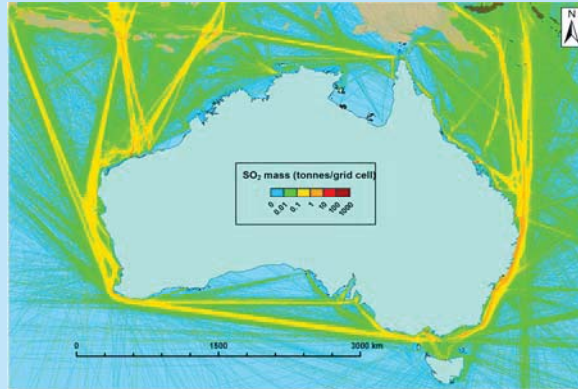
3

International regulation of shipping emissions

- MARPOL current 3.5% sulfur fuel
- MARPOL by 2020, or 2025, 0.5% sulfur
- Emission Control Areas - Baltic Sea, North Sea, North America, US Caribbean 0.1% sulfur
- EU 0.1% sulfur at berth since 2010
- Hong Kong 0.5% sulfur at berth since July 2015
- China 0.5% sulfur fuel 2016-19 for 11 port areas
- Australia - MARPOL implemented by Commonwealth

4

Shipping Emissions in Australia

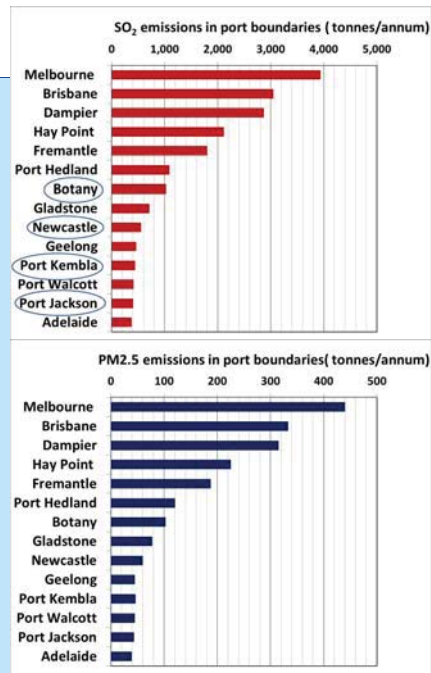


Modelled SO₂ emissions from ships around Australia in 2010/11
(total emissions in each 2km x 2km grid cell over 1 year)

L Goldsworthy and B Goldsworthy, Ship Engine Exhaust Emissions and Fuel Consumption in Australian Waters Including Ports, Stage 1, November 2013, University of Tasmania Research Project 2914

Emissions by Port

- Evaluated 34 ports – top 14 shown
- 2010/11
- Melbourne and Brisbane port boundaries include long transits, Newcastle, Botany and Port Kembla have limited transits
- Emissions from outside port boundaries e.g. ships approaching port, in anchorage areas may also have impacts



L&B Goldsworthy, University of Tasmania

Ship emissions for major NSW ports (2013)

Ship type	PM2.5 tonnes per annum				
	Port Jackson	Port Botany	Newcastle	Port Kembla	Total
Oil Tankers	12#	44	11	2	78
Chemical/ Prod tankers	5	7	1	0	13
Gas tankers	0	2	1	0	3
Bulk carriers	2	0	36	14	52
General cargo vessels	1	0	8	5	14
Container vessels	0	86	1	0	87
Ro Ro vessels	0		0	6	6
Reefers	0		0	0	0
Passenger vessels*	16		0	0	16
Offshore supply vessels	0		0	0	0
Other offshore service vessels	0		0	0	0
Other activities	1		2	0	3
Total	46	139	60	27	263

*Table uses rounded figures e.g. 0 passenger vessel emissions in Newcastle means <0.5tonnes 2015 Newcastle passenger visits indicate emissions of 0.64 tonnes pa.
 # Figures adjusted to take account of voluntary use of low sulfur fuel by oil tankers when berthed in Gore bay

7

Reduction potential for shipping emission control options

Emission control option	PM2.5 (Reduction compared to around 2.7% sulfur)
Scrubber	80-85%
LNG fuel	>90%
Low-sulfur distillate (0.1% sulfur)	88-96%
Low-sulfur distillate (0.5% sulfur)	77-80%
Heavy fuel oil (0.1% sulfur)	70%
Heavy fuel oil (0.5% sulfur)	59.2%
Shore-side power	96%

Sources: PAEHolmes, 2011;(DNV GL, 2015;(EPA, 2012)

8

Cruise ships in Sydney Harbour

- Initial focus on cruise ships in Sydney given high fuel use at berth and terminals near densely populated residential areas
- 90% of all NSW cruise ship visits occur in Sydney Harbour with around 300 visits annually
- Cruise ships produce 35-40% of PM_{2.5} shipping emissions in Sydney Harbour



White Bay Cruise Terminal at Balmain.

Inner West Courier 24.2.15

9

Cruise Ships Regulation – low sulfur fuel

- Stage 1 - low sulfur fuel ($\leq 0.1\%$) while berthed in Sydney Harbour from 1 Oct 2015
- Stage 2 - low sulfur fuel while in Sydney Harbour from 1 July 2016
- Alternative technologies (eg exhaust scrubbers) & alternative fuels (eg CNG) allowed
- Exemptions for ship safety & dry dock scheduling for required modifications



10

Consultation and next steps

- Shipping Emissions Workshop in Oct 2015 and online survey
 - including Port Botany reps
- EPA to report findings to NSW government for consideration of next steps at state level
- Commonwealth government considers national emission requirements

11

Further information

- Workshop presentations and reports about shipping and ports emissions available on the EPA website at <http://www.epa.nsw.gov.au/air/ports.htm>
- DNV.GL 'Emissions from ships operating in the Greater Metropolitan Area', 2015
- PAE Holmes 'Potential measures to reduce air pollution from NSW ports: A preliminary study', 2011
- L Goldsworthy and B Goldsworthy, 'Ship Engine Exhaust Emissions and Fuel Consumption in Australian Waters Including Ports, Stage 1', November 2013, University of Tasmania Research Project 2914
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