Submission regarding the Carbon Pollution Reduction Scheme – Green Paper

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Introduction

Shipping Australia is a peak shipowner body representing the interests of many Australian and foreign shipping companies and shipping agents in the provision of shipping services to and from Australia and in some limited cases, the carriage of domestic cargo under licence but more commonly under single and continuous voyage permits. The members listed below carry or are directly involved in the carriage of over 80% of Australia’s container, car trade and cruise ships as well as over 50% of our break-bulk and bulk trade. The primary focus of Shipping Australia is to provide shipping services that directly lead to the trade facilitation of Australia’s international and domestic trade which in turn leads to a high degree of environmental responsibility and a keen eye on viable and efficient operations.

Full members

- AAL Shipping
- ANL Container Line Pty Ltd
- APL Lines (Australia)
- Asiaworld Shipping Services Pty Ltd
- Carnival Australia
- CMA CGM
- Evergreen Marine Australia Pty Ltd
- Five Star Shipping & Agency Co Pty Ltd
- Goodman Fielder
- Hamburg Sud Australia Pty Ltd
- Hapag-Lloyd (Australia) Pty Ltd
- Hetherington Kingsbury Shipping Agency
- Inchcape Shipping Services
- Indian Ocean Shipping Agencies
- John Swire & Sons Pty Ltd
- “K” Line (Australia) Pty Limited
- LBH Australia Pty Ltd
- Maersk Australia Pty Ltd
- McArthur Shipping & Agency Company
- Mediterranean Shipping Company (Aust) Pty Limited
- MISC Agencies (Australia) Pty Ltd
- Mitsui OSK Lines (Australia) Pty Ltd
- NYK Line (Australia) Pty Ltd
- OOCL (Australia) Pty Ltd
- Pacific Asia Express Pty Ltd
- PB Towage
- RCL (Australia) Pty Ltd
- Royal Caribbean Cruise Lines
- Seaway Agencies Pty Ltd
- Svitzer Australia Pty Ltd
- Wallenius Wilhelmsen Logistics
- Wilhelmsen Ships Service
- Zim Integrated Shipping Services Ltd

Contributing members

- China Shipping container liner Co. Ltd
- Hanjin Shipping
- Hyundai Merchant Marine
- Neptune Shipping Line Pty Ltd
- PT Djakarta Lloyd (Persero)
- Pacific Forum Line (NZ) Ltd

Shipping Australia also has a similar number of corporate associate members that provide services to the maritime industry in Australia. There are also State committees serviced by a secretary in each of the mainland States.

The Australian Government is to be congratulated on seeking to address what must be the most difficult but important public policy issue that has ever faced the Australian Federal Government in recent times. The difficulty of designing a scheme that meets the primary objective of changing consumer behaviour is certainly not underestimated by SAL but we commend the Government for its efforts so far.
**Cabotage and the emissions trading scheme**

Our understanding is that where domestic cargo is carried by vessels licensed under the Australian Navigation Act or under single or continuous voyage permits that also involves an international voyage will not be subject to the ETS. It is understood that a number of maritime unions and the Australian Shipowners Association have raised objections and the ASA is reported to have said it was disappointed the proposed carbon pollution reduction scheme would exclude international shipping and provide support only to road transport, describing this as ‘imposing a double blow of cost disadvantage on coastal shipping and rail sectors’ and ‘we are being asked to compete with international businesses that did not yet pay a price for carbon and we are being asked to compete with them in our own backyard’.

It is appreciated that the overall policy intent of the Australian Government is to honour its international obligations and we do not believe that this will be achieved by exposing international shipping to an Australian ETS.

Our members would be totally opposed to any move in this direction on the basis of the long standing policy of supporting international solutions to these kinds of issues which is addressed later on in this submission.

Most members engaged in the overseas trades either do not purchase bunker fuel in Australia or if they do, it is only a top up basis. This would appear to pose a particular practical obstacle to the application of an Australian ETS.

More fundamentally, it is the work of the International Maritime Organisation and its Secretary General, in particular, seeking to address internationally the greenhouse gas emissions from ships which should be taken into account.

As the Department may be aware the House of Representatives Standing Committee on Infrastructure, Transport, Regional Development and Local Government is presently inquiring into coastal shipping policy and regulation. It would be worthwhile referring this particular issue to them for consideration because effectively it relates to the carriage of Australian coastal shipping. If the additional costs arising from an ETS make it uneconomical for international operators to carry domestic cargo, it is highly likely that the cargo would be transferred to road and rail which would certainly not assist in reducing CO₂ emissions, in particular given that shipping is the most environmentally effective mode of transport per tonne kilometre of cargo carried in terms of CO₂ emissions.

There could be a case for some transitional assistance which could be offered for coastal shipping pending the development of possibly new international arrangements that would result in international shipping paying a price for carbon. Interestingly, Mr Brian Nye, Chief Executive of the Australasian Rail Association recommended at the Transport Industry Roundtable held at Parliament House on 28 August this year a climate change credit be offered to freight users which used less energy intensive transport such as coastal shipping or rail in contestable freight markets, eg for grain or containers. Alternatively, coastal shipping could be excluded from the scheme for a transitional period.
International developments regarding greenhouse gas emissions and other air emissions from vessels

At the March/April session this year of the Maritime Environmental Protection Committee of the International Maritime Organisation, agreement was reached on a reduction in the sulphur oxide (SO\textsubscript{X}) content of fuel with the global sulphur cap being reduced to 3.5% from 2012 and to 0.5% from 2020 subject to feasibility review to be completed by 2018. The limits for sulphur emission control areas (ie. presently the Baltic and North Sea areas) will be reduced to 1.00% beginning in 2010 (currently 1.50%) and a further reduction to 0.10% from 2015.

In addition, it was agreed that there would be progressive reductions in nitrogen oxide (NO\textsubscript{X}) emissions from marine engines to which the current Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL) Convention applies.

These recommendations will be put to the MEPC meeting in October this year and are expected to be accepted.

However, the work towards the development of measures to reduce GHG emissions from ships has been more difficult as they are more complex to deal with than land based emitters and the shipping industry and IMO have been criticised for not taking specific action.

A correspondence group co-sponsored by Norway and Australia has been working to progress this matter and an inter-sessional meeting was held in Oslo, Norway in June of this year. MEPC has agreed to a number of principles for the future regulatory framework for GHG emissions addressing: emission reduction effectiveness; equal application; cost effectiveness; minimisation of competitive distortion; sustainable environmental development; goal based approach; promotion of technical innovation and accommodation of leading technologies; and practicality of operations. Achieving these principles is of paramount importance for the future work at IMO\textsuperscript{1}.

It is assumed that IMO must finalise its package before the next major UN Climate Change Conference which will discuss the ‘post Kyoto Protocol’ regime, in Copenhagen in December 2009. This is also the effective deadline given by the European Commission if regional action is to be avoided. Unilateral EU action would almost certainly entail the inclusion of shipping into the existing EU Emission Trading Scheme, which would mean that ships trading to and from Europe would be required to contribute to the agreed EU target of reducing its total emissions by 20% by 2020.

In simple terms, there are two strands to the current IMO discussions: measures that might improve fuel efficiency, and the much more difficult concept of creating so called Market Based Instruments (MBI), which might include a simple fuel levy or the more complex emissions trading schemes.

\textsuperscript{1} For this part of the submission, we have drawn on an article prepared for the May edition of the Shipping Australia magazine by Annalisee Carston, Principal Adviser, Environment Protection, Maritime Standards Division of the Australian Maritime Safety Authority and this contribution is gratefully acknowledged.
IMO is still finding it difficult to address MBIs, the problem being rooted in the Kyoto Protocol and the principle of ‘common but differentiated responsibility’ whereby the obligations to reduce emissions agreed to by developed and emerging economies are currently different. China, Saudi Arabia, Brazil and India provided arguments in Oslo against the adoption of any measure that could breach UNFCCC (the UN Framework Convention on Climate Change) principles if applied equally to all ships regardless of flag. This runs directly contrary to the ‘level playing field’ argument.

It was obvious in Oslo that there was no significant support amongst governments for a fuel levy proposal from Denmark (although this will be revisited by the MEPC in October). There was more political sympathy for the concept of an ETS, but this cannot yet be described as firm support, except perhaps amongst some European States.

The subject of MBIs is set to remain the most divisive part of the GHG discussion and at this stage it appears that IMO will find it very challenging to deliver a solution. As mentioned, if IMO cannot resolve this part of the package then it seems almost certain that Europe will incorporate shipping into their existing ETS and that the UNFCCC will seek to include shipping into the post Kyoto discussion.

The green credentials of shipping

In addition, many SAL members are actively reducing their environmental footprint including the use of lower sulphur fuel and use of electronically controlled engines to reduce NO\(_X\) emission, using environmentally friendly biodegradable lubricating oil, appropriate treatment of ballast water, introduction of electric power supplies on ships and use of shore supplied electric power and modal shifts to reduce GHG.

Attached are two articles prepared by an Australian journalist for the September edition of the Shipping Australia magazine, Mr Dale Crisp, which provides additional background information on the Oslo meeting in June this year as well as the environmental credentials of shipping.

Conclusion

It is highly likely that by next year the International Maritime Organisation will have developed a scheme that will eventually result in international vessels paying a price for carbon. It is not appropriate for the Australian fulfilment of its international obligations including under the Kyoto Protocol to include international shipping in terms of the ETS directed at the carriage of its domestic cargo.

In addition, there is the practical issue of how it would be applied given that there is very little uptake of bunker fuels by international vessels in Australia at the present time.

However, it is acknowledged that adding to the cost of the carriage of Australia’s domestic cargo by coastal shipping through an ETS is not conducive to a good environmental outcome and this should well be a matter that could be considered
further by the Parliamentary Committee reviewing Australia’s coastal shipping policy. A couple of suggestions have been made in terms of the possible transition to an ETS in Australia which could meet those objectives and avoid Australia breaching its international obligations at least pending the payment of a price for carbon by international shipping generally.

Shipping Australia is happy to provide any elaboration that the Department wishes in relation to this submission or on this subject generally. Such enquiries should be directed to Mr Llew Russell, Chief Executive Officer, Shipping Australia, lrussell@shippingaustralia.com.au, 02 9266 9903.
It seems slightly bizarre that the environmental focus on shipping should have switched to its role in air pollution.

A quick glance at any comparison table shows sea transport to be the lowest polluter in almost all categories, and by far the most efficient in tonnes of freight (and passengers) moved per tonne of emissions created.

But the focus is real and immediate, and the industry is struggling to agree on effective self-discipline before regulators take a heavier hand.

As the accompanying snapshots reveal major shipping companies are already highly proactive in taking environmental initiatives designed to accomplish everything from a reduction in carbon footprint to minimisation of airborne pollutants.

At a governmental level, however, individual efforts count for little. Instead, they want to rope shipping *en masse* into market-based instruments (MBI) which could include trading schemes (ETS). These concepts are complicated, contentious and confusing, as anyone who’s attempted to understand current Federal Government options will agree.

The task of defining the part shipping will play – and finalising a *modus operandi* before others force potentially unsuitable solutions upon the industry – has fallen to the International Maritime Organisation, whose leadership role is being strongly supported by other peak bodies such as the International Chamber of Shipping (ICS), the International Chamber of Commerce (ICC), national shipowners’ associations, technical groups, NGOs and standards authorities such as AMSA.

A quick glance at the IMO’s website will show the organisation has more than 30 active topics under the ‘Marine Environment’ banner, but work on greenhouse gas (GHG) reduction from ships now justifies its own sub-site. This reveals the size of the task at hand and the enormous amount of work needed to meet timelines and expectations.

What the industry does not want is individual countries or regions setting their own standards – as has regrettably happened with ballast water, for example – and this brings added urgency to the IMO’s work. Already areas such as the Baltic and the North Sea are gazetted ‘low sulphur’ bunker zones and, unsurprisingly, the US West Coast (home of ‘cold ironing’, featured in the May issue of *Shipping Australia*) is imposing restrictions at a veritable rate of knots, at sea and on land.

Good progress towards developing a mandatory emissions control regime was made during the first inter-sessional meeting of IMO’s Working Group on Greenhouse Gas Emissions from Ships, held in Oslo in late June. Over 200 delegates, comprising
experts from all over the world, were tasked with developing the technical basis for
and drafts of reduction mechanisms that will be considered by IMO’s Marine
Environment Protection Committee (MEPC) at its next meeting in October (MEPC
’58).

In particular, the Oslo meeting made progress on developing a mandatory CO2
Design Index for ships and an interim CO2 Operational Index. The Design Index will
serve as a fuel-efficiency tool at the design stage of ships, enabling the fuel efficiency
of different ship designs, or a specific design with different input such as design
speed, choice of propeller or the use of waste heat recovery systems, to be compared.
It will contain a required minimum level of fuel efficiency related to a baseline, which
will be established based on fuel efficiency for ships delivered between 1995 and
2005.

An interim CO2 operational index was adopted in July 2005 and has since been used
as a common approach to gather fuel efficiency data from thousands of trials. This
has enabled shipowners and operators to evaluate the performance of their fleet with
regard to CO2 emissions. As the amount of CO2 emitted from a ship is directly
related to the consumption of fuel oil, CO2 indexing also provides useful information
on a ship’s performance with regard to fuel efficiency, and this index is expected to be
finalised at MEPC ’58.

The GHG working group also held extensive discussions on best practices for
voluntary implementation and economic instruments with GHG-reduction potential.
IMO wants to have GHG controls in place before the first commitment period under
the Kyoto Protocol expires at the end of 2011.

Additionally, the inter-sessional meeting reviewed best practices for voluntary
implementation and developed further guidance for the ship industry on fuel efficient
operation of ships. These cover ship builders, operators, charterers, ports and other
relevant partners required to make all possible efforts to reduce GHG emissions.
“Operational measures have been identified as having significant reduction potential
that often can be achieved without large investments, but would require co-operation
with other stakeholders,” the IMO said.

That, unfortunately, is the easy end of the equation.

The Oslo meeting also explored the further development of different economic
instruments with GHG-reduction potential including, inter alia, a global levy on fuel
used by international shipping – i.e. the possible introduction of ETS for ships (MBIs).
Proposals for both open ETS, where ships will be required to purchase allowances in
an open market in line with power stations or steel mills, and closed schemes, where
the trading will only be among ships, were considered.

“Grandfathering” or auctioning of the allowances, how the cap is set and by whom,
the management of any system, the banking of allowances and the impact on world
trade, as well as legal aspects, were also among the issues considered in Oslo.

As ICS has noted, the issue of MBIs is most contentious, especially as the Kyoto
principle of ‘common but differentiated responsibility’ means the goal of a level
playing field (‘flag blindness’ – application of regulation to all shipping, regardless of flag) is seen by some countries as being at odds with the principles of the United Nations Framework Convention on Climate Change (UNFCCC).

“If the IMO cannot resolve this part of the package, then it seems almost certain that Europe will incorporate shipping into their existing ETS and that the UNFCCC will seek to include shipping into the post-Kyoto discussion,” ICS said. “It would therefore seem urgent that the industry needs to consider the possible future options if any kind of control is to be maintained in this area.”

Thus the next MEPC meeting, in London from 6-10 October, shapes up as absolutely pivotal. IMO says it has to decide whether the GHG regulations should form part of an existing convention or whether an entirely new instrument should be developed and adopted. But no clear conclusion has been reached as to whether any such instrument should apply to all ships, irrespective of flag, or only to ships flying the flag of parties to the UNFCCC.

Final adoption of a coherent and comprehensive IMO regime to control GHG emissions from ships engaged in international trade is planned for MEPC ’59, in July 2009.

Hopefully by then the industry will have cleared the air on the way forward.
Sharing responsibility

Shipping Australia members are undertaking a range of initiatives to meet their environmental responsibilities. Here are just a few examples.

Coscon’s fuel consumption has fallen more than 40 per cent since 2003 following its policy of slow steaming and adherence to the UN’s Climate Care Declarations. Xinhua reports the company’s carbon emission output fell from 24.83 to 14.6 units of measurement over the same period, a drop of 41.2 per cent. Coscon’s ships reduce speed further when approaching US ports to reduce pollution. This has been acknowledged at the Port of Long Beach where 21 Coscon ships are enrolled in the Green Port Protection Project. Coscon has won the Green Flag Award for three successive years and in the latest measurement achieved a 99.2 per cent compliance rate. The Green Flag incentive programme rewards ships and vessel operators for voluntarily slowing ship speeds in the harbour to reduce air pollution. In 2006, the compliance rate was 82 per cent and this increased to 89 per cent in 2007.

Hamburg Sud is renowned as one of the earliest adopters and widest users of reefer containers fitted with energy-efficient scroll compressors, which are some 40 per cent more efficient than traditional piston compressors. This cuts the use of electrical energy needed to keep reefer operating at constant temperatures, while on-board ship. Hamburg Sud vessels sail with a variable frequency mains system that provides auxiliary electrical equipment with only as much power as required. In its latest newbuildings the company is introducing a range of other energy saving improvements, including Common Rail diesel main engines with electronic control and monitoring, pre-swirl stators and Schneekluth nozzles for greater propulsive efficiency, and operating software that constantly manipulates a ship’s grading factor – it’s stability and trim – for optimum speed/fuel consumption in any loaded condition.

K Line has installed soot-removal systems for the purpose of cleaning exhaust gases of PM (particulate matter) and effectively preventing onboard soot from spreading. This process is assisted by the application of soot anti-adhesive paint to exhaust pipes in the funnel, and the company also uses the fuel additive Octmar to decrease soot emission and improve fuel efficiency. K Line uses silicon paint on ships’ bottoms for a 6 per cent saving in fuel and applies Evercool, a heat barrier paint that can reflect and cut 50 per cent of infrared radiation to decks and superstructure, thus cutting onboard heat and reducing the need for air conditioning.

Maersk Line identified reefer containers as significant consumers of energy, so in conjunction with subsidiaries Odense Steel Shipyard and Maersk Container Industri, has developed a water cooling system that reduces energy use by 15-20 per cent per container. The main engines fitted to the PS class vessels such as Emma Maersk are the world’s largest, but the development of a Waste Heat Recovery System has reduced fuel consumption by about 10 per cent with a corresponding reduction in the emission of harmful particles as well as CO2, SOx and NOx gases. And to promote better understanding of shipping’s environmental credentials Maersk has developed a Carbon Footprint Calculator that maps CO2 emissions for all legs of global supply chains, from pick-up at the factory to point-of-sale. It includes ocean transport.
aviation, trucking, rail, barge, port operations and warehousing and differentiates between dry and reefer cargoes.

**MSC Cruises** was one of the first cruise companies to adhere to the Venice Blue Flag agreement, under which ships transiting the canal of Venice use diesel oils and reduce their sulphur emissions. The company also holds the global ISO 22000 status for the highest levels of standards, safety and quality of food, air and water on board its nine ships. The newest additions to the fleet, *MSC Fantasia* (to be christened in Naples on 18 December 2008) and sister ship *MSC Splendida* (joining in June 2009) have been labelled ‘ecological ships par excellence’ and will have innovative technology and environmentally-friendly programmes, ranging from energy-saving air-conditioning to advanced water-treatment systems.

**NYK** inaugurated its two-year Cool Earth Project in April this year under the direct supervision of the company president. Under this programme the entire NYK Group will invest 70 billion yen over six years in working to achieve targets in five areas, including innovative technology development for the reduction of CO2 and other greenhouse gases, aimed at a 10 per cent cut by 2013. The efforts of some 56 NYK Group companies are being co-ordinated and cross-deployed under the Group Environmental Management Guidelines and there are chief of environmental management positions for North America, Europe and South Asia. The CEMs investigate issues and targets for their regions and meet annually in Tokyo to share information and outcomes.

**Wallenius Wilhelmsen Logistics** operates all its vessels using fuel with an average sulphur content of 1.3 per cent, compared to the current general international requirement of 4.5 per cent. This policy has reduced global sulphur emissions by 98,500 tonnes over seven years. This year WWL has established the Orcelle Fund, a grant-awarding body that will provide seed funding to high-risk development projects for alternative maritime energy sources and energy efficient technology. The fund takes its name from the *E/S Orcelle*, WWL’s visionary concept car carrier with a ‘zero-emissions’ capability and no ballast water on board. The vessel was designed for the year 2025 to use only renewable energy sources, including the sun, wind and waves, as well as fuel-cell technology, to meet all propulsion and on-board power requirements.

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