

Our achievements

Since our first Sustainability Plan was released in 2015, we have completed, or are progressing all identified actions and have delivered significantly more than what we set out to achieve.



Action plan scorecard:



Transport and logistics

Actions from 2015 Plan	Progress	Sustainability Outcome
Enfield Intermodal Logistics Centre		Operations commenced May 2016.
Promote increased use of rail, shipping and high productivity vehicles	Ongoing	<p>Advocated for:</p> <ul style="list-style-type: none">• Funding for Port Botany freight rail line duplication.• Moorebank Intermodal Terminal development approval.• Approvals for high productivity vehicle permits for port access.• Planning for Mt Ousley interchange. <p>Delivery of rail siding extensions at Enfield Intermodal Terminal.</p> <p>Commencement of Enfield intermodal terminal rail operations.</p>
Maintenance dredging for navigable depths in port channels/berthing	Ongoing	<ul style="list-style-type: none">• 4 x dredging campaigns completed at Port Kembla.• 2 x dredging campaigns completed at Port Botany.



Development and land use

Actions from 2015 Plan Progress

Sustainability Outcome

Recognition of port protection requirements / buffer zones through environmental planning instruments



Ongoing

- Measures to protect land for freight and logistics included in the NSW Freight and Ports Plan 2018 and Greater Sydney Region Plan 2018.
- Rezoning of old Port Kembla School site for residential development rejected due to proximity to port-related industrial land and rail.
- Proposed amendments to the State Environmental Planning Policy (Three Ports) 2013 to reduce the risk of incompatible development on land surrounding ports.
- Eastern City District Plan confirms protection/growth for trade gateways including Port Botany while managing interfaces of industrial, trade and intermodal.
- Illawarra Shoalhaven Regional Plan seeks to prevent land use conflicts by managing buffers around Port Kembla and supporting freight network.

Freight and logistics infrastructure policy and strategy



Ongoing

NSW Government delivered Greater Sydney Region Plan, State Infrastructure Strategy, Future Transport 2056 and NSW Freight and Ports Plan in 2018. These documents support:

- Protection of land for freight and logistics by retaining industrial land around ports and intermodal facilities and managing interfaces with more sensitive land uses.
- Previous government port planning strategy that Port Botany, followed by Port Kembla, will deliver NSW's container trade needs.

Review Green Port Checklist to improve sustainability



In Progress

- Green Port Checklist reviewed in 2017.
- Port Development Codes to be replaced with NSW Ports Sustainable Development Code – new action for 2019 Plan.

Port Kembla Development Code



- Port Kembla Development Code completed in June 2016.
- To be replaced with NSW Ports Sustainable Development Code – new action for 2019 Plan.

Sustainable design measures



Ongoing

Sustainability incorporated in the design of the Brotherson Dock Life Extension Project and new warehouses at Enfield.

Record weather-related disruptions on port operations



Ongoing

Procedure established and ongoing records maintained of port weather disruptions.



Local environment outcomes

Actions from 2015 Plan Progress

Sustainability Outcome

Port Botany Noise Management Strategy



Strategy rolled out in 2017 with ongoing monitoring and collaboration with NSW Environment Protection Authority (EPA) and tenants.

Road traffic monitoring at Port Botany and Port Kembla



Partially Complete

- Road traffic volume assessment completed for Port Botany in 2017.
- Port Kembla assessment to be delivered in 2019 plan.

Port Botany long-term land-use risk assessment



In Progress

Scope of assessment developed – action to be delivered in 2019 plan.

Contribute to government policy on environmental management of port operations



Ongoing

Submissions made to:

- Draft Marine Estate Management Strategy 2017.
- Draft Coastal Management State Environment Planning Policy (SEPP).
- Draft Industrial Noise Guidelines 2015.
- Regulation of Air Emissions from Shipping 2015.
- Biosecurity Levy considerations.

Heritage management strategy



Rolled out Heritage Asset Management Strategy (HAMS) in 2016 with targeted Asset Maintenance Plan for key heritage items. Actions included:

- Restoration of steam crane at Port Kembla.
- Interpretive walk & signage at Enfield Intermodal Lookout.

Environmental Management Plans (EMPs)



Ongoing

Overarching EMPs for NSW Ports finalised 2015 and regularly reviewed.

Maintenance of Green and Golden Bell Frog ponds at Enfield and Port Kembla



Ongoing

Ponds are regularly maintained.



Resource conservation and efficiency

Actions from 2015 Plan



Installation of additional solar panels at Port Botany and Port Kembla



Electricity monitoring and management services



Green procurement standards for motor vehicles



Recycling schemes for batteries, mobile phones and other electronic equipment



Reuse dredged material from Berth 103 within the footprint of the Port Kembla Outer Harbour Development

Sustainability Outcome

- 32kW solar system installed on Port Kembla Maritime Centre in 2017.
- An extra 17kW solar system installed on Brotherson House at Port Botany in 2017.
- Measurable reduction of 21% in electricity consumption at our Port Botany and Port Kembla office buildings compared to our FY15 baseline.

- Electricity monitoring system installed at Port Kembla Maritime Centre in 2016, complementing our Port Botany system.

- Rationalised vehicle fleet and reduced fuel consumption by 74% since FY15.
- Purchased first hybrid petrol-electric vehicle in 2019.
- Green procurement policy to be delivered as part of 2019 Plan.

Port Botany and Port Kembla have permanent recycling collection points for old batteries and mobile phones.

Approximately 120,000m³ of dredged material placed in the Outer Harbour in 2015 as part of an onsite re-use initiative.



Stakeholder and community partnerships

Actions from 2015 Plan Progress

Sustainability Outcome

Community liaison meetings at Port Botany, Port Kembla and Enfield



Ongoing

40 community liaison meetings held in the period 2015–2018 as part of our ongoing community engagement program.

Publish development and sustainability information on NSW Ports website



Ongoing

New NSW Ports website launched 2017 includes Community and Environment Hub for:

- Environmental & sustainability information.
- Compliance records for NSW Ports development projects.
- Community announcements.
- Consultative committee minutes and terms of reference.
- Public access information.
- Sponsorship updates.

Environment and Sustainability Working Groups for tenants at Port Botany and Port Kembla



Ongoing

Working Groups established:

- 1 x meeting held for Port Botany.
- 2 x meetings held for Port Kembla.

Environmental awareness training for all staff and contractors



Ongoing

- New environmental induction rolled out 2015.
- All new staff undertake this induction.
- Over 770 contractors and port users have completed health, safety and environmental inductions online since 2018.

Staff involvement in environmental and sustainability events



Ongoing

- 8 x Clean Up Australia Day events.
- 3 x Biggest Morning Tea fundraisers.
- 1 x World Environment Day 'Green Pledges' event.
- 1 x National Safe Work Month program.

Achievement highlights

Over the last four years, as our drive towards sustainability has gathered momentum we have expanded our sustainability program to incorporate the following additional initiatives:

- Investment in rail capacity at Port Botany.
- A new hydraulic gangway at Bulk Liquids Berth 1, Port Botany.
- Productivity dashboards at Port Botany.
- Sustainable concrete research partnerships at Port Kembla.
- Implementing Australia's first environmental incentive program for shipping emissions reduction.
- Conservation partnerships with community volunteers at Botany and Port Kembla.
- Partnership with Australian National Maritime Museum to produce a public exhibition about shipping containers.
- Community partnerships with local schools and surf clubs.

Highlights of some of our achievements are included in the following case studies.





More containers on trains means less trucks on the road

NSW Ports is working with logistics operators to increase transportation of containers by rail:

- Creating operational efficiencies.
- Reducing road congestion.
- Reducing emissions.

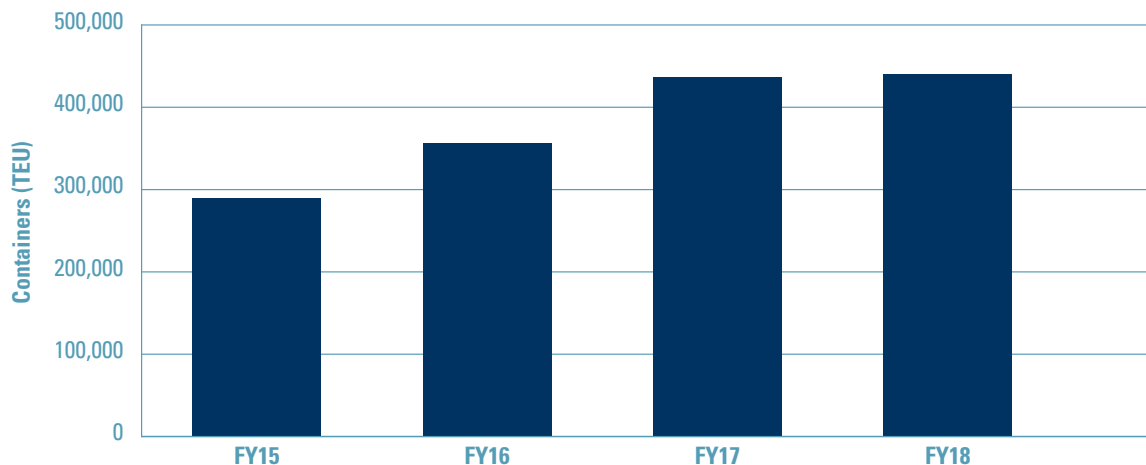
We have increasingly focused on growing the volume of containers transported to and from Port Botany by rail. Enfield Intermodal Logistics Centre (Enfield ILC) opened in May 2016 and we actively participate in the Port Botany Rail Optimisation Group (PBR OG) and engage with peak industry bodies and key logistics operators to promote the use of rail transport. We also monitor the utilisation of rail windows at Port Botany and work with stevedores to improve rail efficiency and throughput.

We advocate for infrastructure projects to support rail transport including: the completion of the duplication of the Port Botany Rail Freight Line, reservation of a corridor for the Western Sydney Freight Line, and development of additional intermodal facilities at Moorebank and Western Sydney.

Outcome:

The volume of containers transported to and from Port Botany by rail has grown by 52% since the 2015 financial year. The Federal Government announced funding to complete the Port Botany Rail Line Duplication in 2018 and NSW Government planning approvals were granted for the Moorebank Intermodal facility in 2016.

Port Botany Container Volume on Rail



Movement of containers by rail between Port Botany and Enfield continues to grow – reducing road traffic between Enfield ILC and Port Botany and improving the efficiency of port operations.



Investment to boost rail capacity at Port Botany

In November 2018, we announced our investment in 'on-dock' rail infrastructure capacity at each of Port Botany's three container terminals, commencing in 2019. Investment will be staged, with stevedores being required to invest in rail operating equipment to meet target terminal capacities.

In the first four years of the program, NSW Ports will invest \$120 million to double port side rail capacity and increase efficiency. Stage 1 investment will increase capacity to 1.5 million TEU and reduce turn-around times by more than 33% at the Patrick terminal.

Outcome:

When fully operational, Stage 1 of this investment will:

- Reduce truck kilometres travelled in Sydney by at least 10 million per year.
- Save over 2 million litres of diesel per year – the equivalent of a net reduction of more than 5,400 in CO₂ emissions tonnes per year.
- Create more rail services and rail windows for cargo owners including regional trains.



This initiative was delivered over and above the 2015 Sustainability Action Plan.



Moving cement by rail

Port Kembla has increasingly become a crucial gateway for supply of imported cement to support the NSW construction boom. While traditionally, cement clinker imports are ground to cement in Port Kembla and transported by road to concrete batching plants within the Sydney metropolitan region, in 2018 Cement Australia commenced transportation of cement by rail from its Port Kembla mill to a facility in the Sydney suburb of Clyde.

Outcome:

As a result, the volume of cement transported by rail has averaged approximately 350 rail wagons per month since 2018, saving about 4,200 truck movements on the roads of the Illawarra and Southern Sydney in 2018.



This initiative was delivered over and above the 2015 Sustainability Action Plan.





Navigating the future: NSW Ports' 30 Year Master Plan

In October 2015, NSW Ports released Navigating the Future: NSW Ports' 30 Year Master Plan.

Outcome:

The plan articulates our priorities and the actions we believe should be undertaken to ensure a sustainable and efficient port supply chain well beyond the 30 year horizon. It is designed to be a blueprint for our stakeholders, setting a clear and consistent direction that guides decision making and informs discussion.



This initiative was delivered over and above the 2015 Sustainability Action Plan.



Port Botany productivity dashboards

We have increased our capability to capture port operations data and developed productivity dashboards for Port Botany which display current and historic data regarding waterside and landside port activities.

Outcome:

This data is used to understand port operational efficiency and identify opportunities for improvements.



This initiative was delivered over and above the 2015 Sustainability Action Plan.

New hydraulic gangway at Port Botany's Bulk Liquids Berth 1



In 2018 we replaced the old gangway tower at Port Botany's Bulk Liquid Berth 1 with a new, custom manufactured gangway tower. This ensured safe access to both large and small ships and improved berth efficiency by reducing berth occupancy time by over 30 minutes for each ship calling at Bulk Liquid Berth 1.



This initiative was delivered over and above the 2015 Sustainability Action Plan.

Outcome:

New infrastructure like this gangway increases the capacity of the berth and provides faster vessel turn-around – improving productivity and facilitating the handling of larger ships in line with our 30 Year Master Plan.

Sustainable concrete for port infrastructure



NSW Ports is participating in two research projects through the University of Wollongong (UOW) and the University of NSW (UNSW) to trial use of more sustainable concrete options for marine structures:

- **The UOW research thesis** is investigating the effects of using unwashed sea sand in concrete as opposed to river sand, natural sand or manufactured sand. The project is investigating and comparing the compressive strength and chemical composition of concrete cylinders made with sea sand and placed in the marine environment at Port Kembla.
- **The UNSW project** was undertaken by the former Cooperative Research Centre (CRC) for Low Carbon Living and is trialling the use of Geopolymer Concretes made with steel furnace slag. The growing demand to produce concrete for large-scale infrastructure places immense pressure on natural resources and an opportunity was identified to use steel furnace slag which is a by-product of steel making. The concrete blocks produced in this manner were placed at the Port Kembla breakwater and are integrity tested on an ongoing basis.

Outcome:

Both research projects are challenging the way non-renewable resources are being used in the maritime construction industry by aiming to identify less energy intensive technology and testing the viability of more sustainable material options. The use of alternative concrete compositions will reduce energy consumption during the concrete making process and utilise more environmentally friendly materials and waste products.



This initiative was delivered over and above the 2015 Sustainability Action Plan.



Sustainable development features for Enfield ILC warehouses

NSW Ports has partnered with industrial developer Goodman to develop 12 warehouse buildings across six precincts at the Enfield ILC. Goodman prepared a new master plan for the site and, after receiving development approval, commenced staged construction in 2018.

Outcome:

Each warehouse will incorporate sustainable development features including:

- Rainwater collection tanks for reuse in toilet flushing and landscape irrigation.
- Solar hot water systems.
- Low volatile organic compound paints, carpets and sealants.
- Water efficient bathroom hardware.
- LED lighting to all warehouse areas.
- Translucent roof and wall sheeting to increase natural light and save electricity.
- Landscaping with low-maintenance vegetation to minimise demand for irrigation and support local biodiversity.



Environmental Incentive for Shipping

In 2019 NSW Ports was the first Australian port to introduce an environmental incentive for ships. The incentive is applied to vessels that perform better in reducing their emissions than the levels required by current standards of the International Maritime Organisation. The incentive takes the form of a discount on vessel charges for Port Botany and Port Kembla. This initiative supports the World Ports Sustainability Program.

Outcome:

NSW Ports is taking the lead in Australia by incentivising shipping lines to improve their environmental performance. The incentive will promote and encourage cleaner, more environmentally friendly ships visiting Port Botany and Port Kembla, which will reduce emissions and improve local air quality.



This initiative was delivered over and above the 2015 Sustainability Action Plan.

Maintaining heritage values at Port Kembla

Repair and maintenance of heritage-listed items is an important part of the sustainable management of our assets at Port Kembla Heritage Park. As part of this work, we have repaired and repainted the Mobile Block Setting Steam Crane in 2018 and refurbished the associated original wagons in 2019. The Crane is the last of its kind remaining in NSW and provides a valuable link to the history of port construction in the early 1900s.



Outcome:

Great care has been taken in repairing damage, removing rust and repainting. The wagons are being restored using local timber and re-using as much of the original materials as possible.





Conservation partnerships at Sir Joseph Banks Park and Port Kembla Heritage Park

In August 2018 we launched a three-year partnership with Bayside Council and Conservation Volunteers Australia (CVA), to carry out environmental conservation works at Sir Joseph Banks Park, Botany.

The park holds significant environmental importance, with vital fresh water wetlands and remnant Eastern Suburbs Banksia Scrub. It is an asset to the community from a conservation standpoint, and also provides valuable open space for community recreation.

Outcome:

The project will engage up to 600 local community members in rehabilitating areas of native vegetation which provide significant habitat for native fauna.

We have also partnered with Conservation Volunteers Australia to enhance wetlands and habitat for the endangered Green and Golden Bell Frog at the Port Kembla Heritage Park.



This initiative was delivered over and above the 2015 Sustainability Action Plan.



Solar Energy and Electricity consumption monitoring

In 2017 we installed solar systems on our office buildings at Port Botany and Port Kembla and began tracking energy using an energy monitoring and metering service.

At Port Kembla we installed a 42kW solar system while at Port Botany we installed an extra 17kW system to increase existing solar capacity and reduce the environmental footprint of office activities. By monitoring our energy usage, we are able to manage unexpected energy spikes and surges.

Outcome:

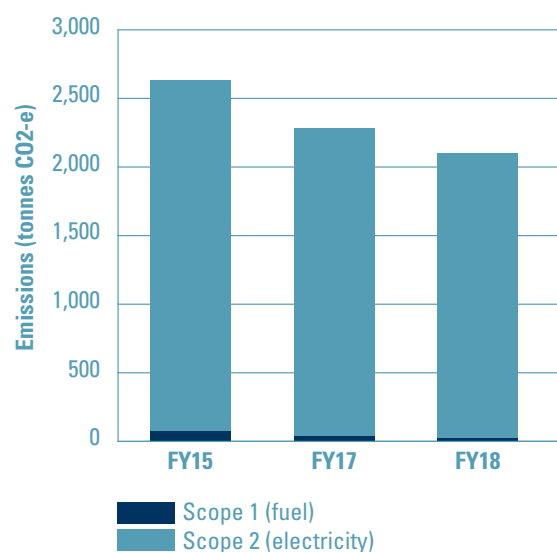
We achieved a 21% reduction in electricity consumption at our Port Botany and Port Kembla office buildings compared to our FY15 baseline.



NSW Ports' Greenhouse Emissions Profile

We have reduced greenhouse gas emissions from our consumption of fuel and electricity by 20% since FY15 to 2,101 tonnes CO₂-equivalent per annum. This has been achieved through a range of initiatives including rationalisation of office space and vehicle fleet, energy efficiency improvements in air conditioning and lighting, on-site solar electricity generation and monitoring energy usage at Port Kembla and Port Botany.

NSW Ports Greenhouse Gas Emissions





Container – the box that changed the world

In 2017 we proudly partnered with the Australian National Maritime Museum to develop a free, outdoor and educational interactive exhibition – *Container, 'The Box That Changed the World.'*

Housed entirely within six shipping containers each with a specific theme – Ship, Cargo, Port, Ocean, Build and Things, the exhibition invites visitors from our communities to explore the technical, economic, social and cultural impacts of containerisation and the role shipping containers play within our lives.

NSW Ports promoted the exhibition in local schools and provided transport for students to visit and experience it first hand.

Outcome:

So far more than 230,000 people have attended the exhibition, which was held in Darling Harbour from October 2017 for 12 months before touring to regional centres in Wollongong and Wagga Wagga. The exhibition will next visit Narrabri and then Dubbo in 2019.



This initiative was delivered over and above the 2015 Sustainability Action Plan.



Brotherson Dock Life Extension Project

NSW Ports has commenced a project to repair concrete damage and protect wharf structures at the Brotherson Dock. The project includes the innovative use of a hybrid cathodic protection (CP) system, which will protect the area of the wharf face above the water line that require a one-off energisation phase (compared to the traditional CP system which requires a continuous power supply). The CP system supplies electrical currents that suppress the corrosion reaction and has an expected life of 50 years. We will ensure that the electricity supplied to the CP system is offset by renewable energy generation.

Outcome:

Sustainable protection systems for our wharf structures where the electricity consumption required is generated by renewable sources eg. solar energy.



This initiative was delivered over and above the 2015 Sustainability Action Plan.



Enfield Intermodal Lookout

In April 2017 we opened the Enfield Intermodal Lookout which provides a walkway and viewing areas for public access in the southern precinct of the Enfield ILC.

Outcome:

Open during daylight hours, the lookout is designed to take visitors on a journey of the site's history, the local environment and current operations. Key historical features on display include the repositioned rail turntable, the heritage-listed Tarpaulin Factory and Pillar Water Tank. Ecological features such as the Green and Golden Bell Frog ponds and newly established native vegetation on the slopes of Mt Enfield can also be viewed from the lookout.



Community partnerships

We have expanded our partnerships with community organisations, particularly local schools and surf clubs to include:

- Funding to construct a new playground at La Perouse Public School.
- Continuing our sponsorship of the Permaculture Partners program which establishes and maintains food gardens and outdoor learning spaces at six schools around Port Kembla.
- Launching a new three-year sponsorship with Maroubra Surf Life Saving Club to support the Nippers program.
- Continuing our support of the Port Kembla Surf Life Saving Club.



This initiative was delivered over and above the 2015 Sustainability Action Plan.

