



Parliamentary Budget Office - Election Policy Costing

NSW Parliament • Parliament House, Macquarie Street Sydney NSW 2000

Referred By: Australian Labor Party
Date Referred: 7/01/2019

Proposal No: A224
Date Published: 18/03/2019

Proposal Title: Shore to ship power at White Bay

Cluster: Transport

General Government Sector Impacts

	2018-19 \$'000	2019-20 \$'000	2020-21 \$'000	2021-22 \$'000	4 year Total \$'000
Expenses (ex. depreciation)	-	-	-	-	-
Depreciation	-	-	-	-	-
Less: Offsets	-	-	-	-	-
Revenue	-	-	-	-	-
Net Operating Balance:	-	-	-	-	-
Capital Expenditure	-	-	-	-	-
Capital Offsets	-	-	-	-	-
Net Capital Expenditure:	-	-	-	-	-
Net Lending/(Borrowing):	-	-	-	-	-

Total State Sector Impacts

Net Lending/(Borrowing):	-	(1,807)	(19,554)	(13,954)	(35,315)
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Notes and costing assumptions

This policy proposes installing ship to shore power facilities at the White Bay Cruise Terminal. The policy is based on a 2017 feasibility study into shore power conducted by the Port Authority of NSW (the Authority).

Based on information provided by the Authority, the PBO estimates that the cost of installing ship to shore power will be approximately \$35.3 million over the forward estimates. This is the upper range of estimates provided by the Authority, and is preferred by the PBO for reasons outlined below. Planning and pre-construction works would be undertaken in 2019-20, with full construction commencing in 2020-21.

Project and costing assumptions

The Authority advised that the costs set out in the 2017 final report for shore power feasibility study for White Bay Cruise Terminal (the 2017 Study) should be utilised in estimating the construction costs of a ship to shore power facility (see references at end of notes). The 2017 Study costed a shore power station with a rating of 15 megavolt amperes, with an optimum electricity connection point being a 33 kilovolt connection from Rozelle Sub-transmission Substation. This would require an underground cable from Rozelle to the White Bay Cruise Terminal with an estimated length of 2.5 kilometres.

The 2017 Study costs were presented as a range due to the variability associated with the purchase costs of the shore power equipment, power connection systems, substation upgrade requirements and location of power cable and associated site conditions (see Table A1).

Further information on key costing assumptions is overleaf.

Notes and costing assumptions continued:

Table A1 - Ship to shore power construction costs (\$'000)

	2018-19	2019-20	2020-21	2021-22
Lower estimate	-	1,567	10,967	7,967
Upper estimate	-	1,807	19,554	13,954

The PBO used the upper range to perform the costing of this policy. This was chosen for the following reasons:

- The finding of the 2017 Study that installing ship to shore power would have an "estimated landside infrastructure cost of \$36 million, based on a two-year installation period"
- Uncertainty over Ausgrid's ability to provide suitable levels of power capacity to the site (e.g. the current costs assume no Rozelle substation upgrade is required to accommodate ship to shore power)
- Uncertainty over the cost of shore power equipment (the 2017 Study noted that cost estimates by suppliers did not involve site visits)
- The potential for construction program delays, scope changes or latent conditions (e.g. unusual soil conditions during cable installation).

Additionally, the policy excludes funding for the upgrade of private ships that lack facilities for ship to shore power.

The Authority also estimated the annual cost of operating the ship to shore facility from 2022-23. These costs fall outside the forward estimates, but is provided below as an indication of ongoing costs arising from this policy.

Table A2 - Ship to shore power operating expenses, 2022-23 (\$'000)

	Cost
Employee-related	400
Depreciation	1,025 - 1,766
Other operating and maintenance costs	3,100
Cost per annum	4,525 - 5,266

The policy does not specify whether the Authority would recoup operating costs through increased port pricing or charging for use of shore power.

Impact on Authority's credit rating

The PBO has assumed that the Authority will bear the cost of installing shore power facilities. However, the Authority has advised the PBO that their current credit rating provides no further headroom for borrowing without negatively impacting its rating. Should this rating be affected, the Authority would breach the current *NSW Treasury Capital Structure Policy*, which sets a target credit rating for State-Owned Corporations.

References

NSW Treasury, Capital Structure Policy for Government Businesses Policy & Guidelines Paper, 2016 [https://www.treasury.nsw.gov.au/sites/default/files/pdf/TPP16-03_Capital_Structure_Policy_for_Government_Businesses.pdf]

Port Authority of NSW, Shore power study, 2017 [https://www.portauthoritynsw.com.au/sustainability-and-environment/air-and-noise-emissions/shore-power-study/]