

## Maritime Link Alternatives Analysis - Base Load Resource Plans

	<b>Maritime Link Base Load</b>	<b>Other Import Base Load</b>	<b>Indigenous Wind Base Load</b>
<b>2015</b>	Lin #2 retire	Lin #2 retire	Lin #2 retire
<b>2016</b>			
<b>2017</b>	ML Oct 2017 Lin #1 retire	OI Oct 2017 Lin #1 retire	
<b>2018</b>			
<b>2019</b>			Wind 425 MW CT 50 MW Capital investment for wind integration Lin #1 retire
<b>2020</b>			
<b>2021</b>			
<b>2022</b>			
<b>2023</b>			
<b>2024</b>			
<b>2025</b>			
<b>2026</b>			CC 250 MW Coal Unit retire
<b>2027</b>			
<b>2028</b>			Wind 50 MW
<b>2029</b>		CT 50 MW	
<b>2030</b>	CC 250MW Coal Unit retire	CT 50 MW	CC 150 MW Coal Unit retire
<b>2031</b>			
<b>2032</b>			
<b>2033</b>		CC 250MW Coal Unit retire	
<b>2034</b>			Wind 50 MW
<b>2035</b>	CC 250MW Coal Unit retire		CC 250 MW Coal Unit retire
<b>2036</b>			
<b>2037</b>			Wind 50 MW
<b>2038</b>			
<b>2039</b>			Wind 425 MW re-powered CC 150 MW Coal Unit retire
<b>2040</b>			
Planning NPV \$B	10.776	10.914	11.643
Study NPV \$B	16.209	16.496	18.182

Note: Unit retirements shown are for modeling purposes only. Future unit retirements will be reviewed and evaluated based on system requirements and regulatory compliance.

PV Benefit of Maritime Link vs Other Import (Base Load)

Operating Costs:

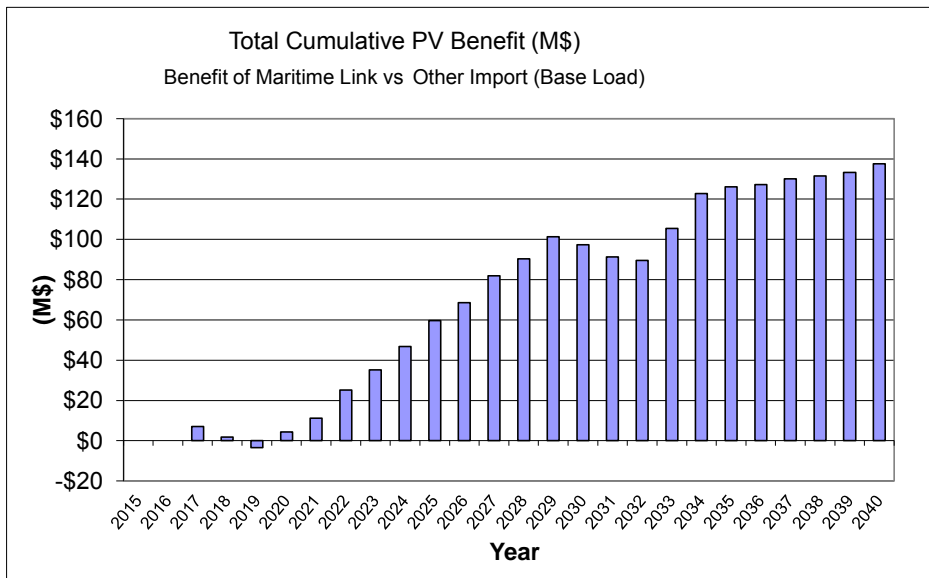
Year	Maritime Link (k\$)	Other Import (k\$)	Benefit Nominal \$ (k\$)
2015	592,093	\$592,093	0
2016	618,246	\$618,246	0
2017	623,768	\$645,760	21,991
2018	567,959	\$660,372	92,413
2019	580,464	\$676,751	96,288
2020	602,893	\$706,689	103,796
2021	616,539	\$724,522	107,983
2022	636,912	\$746,867	109,955
2023	639,517	\$741,854	102,337
2024	653,166	\$756,879	103,713
2025	671,805	\$777,306	105,501
2026	685,881	\$792,307	106,426
2027	701,543	\$808,642	107,099
2028	715,436	\$824,921	109,485
2029	732,727	\$843,046	110,318
2030	754,145	\$869,519	115,374
2031	768,010	\$884,807	116,797
2032	787,646	\$905,020	117,375
2033	815,803	\$934,136	118,333
2034	847,127	\$972,718	125,591
2035	877,362	\$1,011,246	133,884
2036	905,919	\$1,040,881	134,962
2037	939,506	\$1,069,710	130,204
2038	975,696	\$1,099,057	123,362
2039	1,014,363	\$1,137,667	123,304
2040	1,057,688	\$1,191,452	133,764
		<b>NPV (2015 k\$)</b>	<b>1,152,227</b>

Capital Costs:

Year	Maritime Link (k\$)	Other Import (k\$)	Benefit Nominal \$ (k\$)
2015	0	0	0
2016	0	0	0
2017	22,033	8,118	-13,916
2018	155,703	56,906	-98,797
2019	160,477	57,450	-103,027
2020	151,105	57,845	-93,260
2021	155,948	58,103	-97,845
2022	146,514	58,234	-88,279
2023	143,824	58,249	-85,574
2024	141,413	58,158	-83,255
2025	139,011	57,968	-81,043
2026	146,145	57,687	-88,458
2027	135,823	57,324	-78,499
2028	147,261	56,883	-90,377
2029	146,988	63,369	-83,618
2030	195,331	69,804	-125,527
2031	202,337	68,913	-133,424
2032	190,600	67,967	-122,633
2033	188,085	119,599	-68,486
2034	185,473	117,604	-67,869
2035	237,533	115,565	-121,968
2036	244,308	113,488	-130,820
2037	229,937	111,374	-118,563
2038	226,051	109,227	-116,824
2039	222,107	107,050	-115,057
2040	218,113	104,844	-113,269
		<b>NPV (2015 k\$)</b>	<b>-1,014,700</b>

Total Cumulative PV Benefit (\$2015) (M\$)
0
0
7
2
-3
4
11
25
35
47
60
69
82
90
101
97
91
90
105
123
126
127
130
132
133
138

**Total Cumulative PV Benefit 2015-2040 138 M\$**  
(Discount Rate is 6.56%)



PV Benefit of Maritime Link vs Indigenous Wind (Base Load)

Operating Costs:

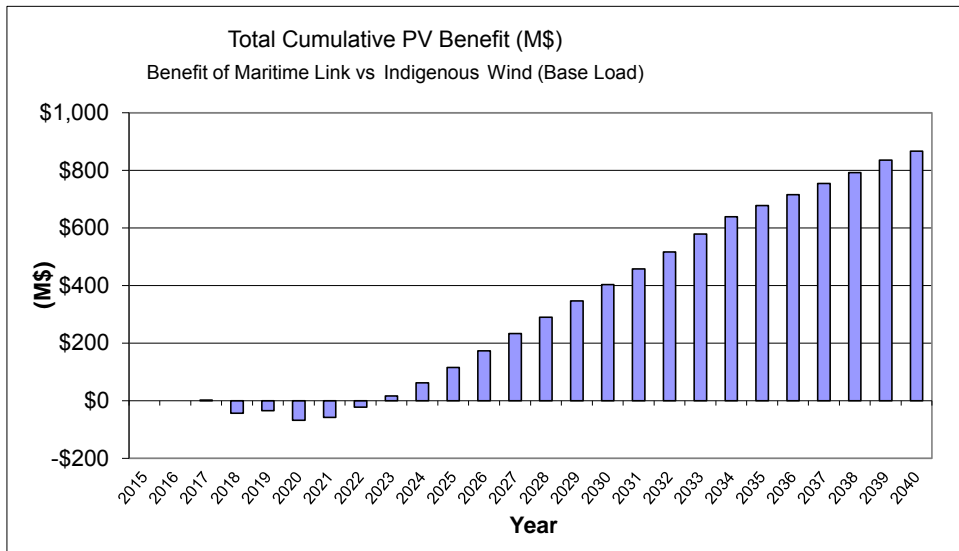
Year	Maritime Link (k\$)	Indigenous Wind With Integration Costs (k\$)	Benefit Nominal \$ (k\$)
2015	592,093	\$592,093	0
2016	618,246	\$618,246	0
2017	623,768	\$648,316	24,548
2018	567,959	\$667,782	99,823
2019	580,464	\$615,666	35,202
2020	602,893	\$643,191	40,298
2021	616,539	\$656,292	39,753
2022	636,912	\$670,889	33,977
2023	639,517	\$665,411	25,894
2024	653,166	\$684,497	31,331
2025	671,805	\$721,058	49,254
2026	685,881	\$711,220	25,339
2027	701,543	\$735,533	33,990
2028	715,436	\$755,619	40,183
2029	732,727	\$796,986	64,259
2030	754,145	\$840,967	86,823
2031	768,010	\$867,857	99,848
2032	787,646	\$902,692	115,047
2033	815,803	\$958,081	142,278
2034	847,127	\$986,584	139,457
2035	877,362	\$969,644	92,283
2036	905,919	\$1,009,030	103,111
2037	939,506	\$1,033,312	93,806
2038	975,696	\$1,086,344	110,649
2039	1,014,363	\$1,127,646	113,283
2040	1,057,688	\$1,186,765	129,077
		<b>NPV (2015 k\$)</b>	<b>690,092</b>

Capital Costs:

Year	Maritime Link (k\$)	Indigenous Wind With Integration Costs (k\$)	Benefit Nominal \$ (k\$)
2015	0	0	0
2016	0	0	0
2017	22,033	0	-22,033
2018	155,703	0	-155,703
2019	160,477	137,315	-23,163
2020	151,105	64,285	-86,820
2021	155,948	131,907	-24,041
2022	146,514	166,528	20,015
2023	143,824	183,203	39,379
2024	141,413	190,096	48,683
2025	139,011	191,635	52,624
2026	146,145	236,043	89,898
2027	135,823	232,164	96,341
2028	147,261	235,091	87,830
2029	146,988	221,421	74,433
2030	195,331	254,479	59,148
2031	202,337	252,898	50,562
2032	190,600	248,683	58,083
2033	188,085	243,014	54,929
2034	185,473	245,244	59,771
2035	237,533	283,683	46,150
2036	244,308	286,101	41,792
2037	229,937	292,415	62,479
2038	226,051	276,625	50,574
2039	222,107	311,265	89,159
2040	218,113	242,405	24,292
		<b>NPV (2015 k\$)</b>	<b>176,571</b>

Total Cumulative PV Benefit (\$2015) (M\$)
0
0
2
-44
-35
-68
-58
-23
16
61
115
173
233
289
346
403
457
516
579
638
677
715
754
791
835
867

**Total Cumulative PV Benefit 2015-2040 867 M\$**  
(Discount Rate is 6.56%)



## Maritime Link Alternatives Analysis - Low Load Resource Plans

	<b>Maritime Link</b>	<b>Other Import</b>	<b>Indigenous Wind</b>
	<b>Low Load</b>	<b>Low Load</b>	<b>Low Load</b>
<b>2015</b>	Lin #2 retire	Lin #2 retire	Lin #2 retire
<b>2016</b>			
<b>2017</b>	ML Oct 2017 Lin #1 retire	OI Oct 2017 Lin #1 retire	
<b>2018</b>			
<b>2019</b>			Wind 250 MW CT 50 MW Capital investment for wind integration Lin #1 retire
<b>2020</b>	Gas/HFO Unit retire	Gas/HFO Unit retire	
<b>2021</b>			
<b>2022</b>			
<b>2023</b>			
<b>2024</b>			
<b>2025</b>			
<b>2026</b>			
<b>2027</b>			
<b>2028</b>			
<b>2029</b>	Coal Unit retire	Coal Unit retire	
<b>2030</b>			CC 250MW
<b>2031</b>			
<b>2032</b>			
<b>2033</b>			
<b>2034</b>			
<b>2035</b>			CC 250MW
<b>2036</b>			
<b>2037</b>			
<b>2038</b>			
<b>2039</b>			Wind 250 MW re-powered
<b>2040</b>			
Planning NPV \$B	8.942	9.187	9.264
Study NPV \$B	12.221	12.753	13.244

Note: Unit retirements shown are for modeling purposes only. Future unit retirements will be reviewed and evaluated based on system requirements and regulatory compliance.

PV Benefit of Maritime Link vs Other Import (Low Load)

Operating Costs:

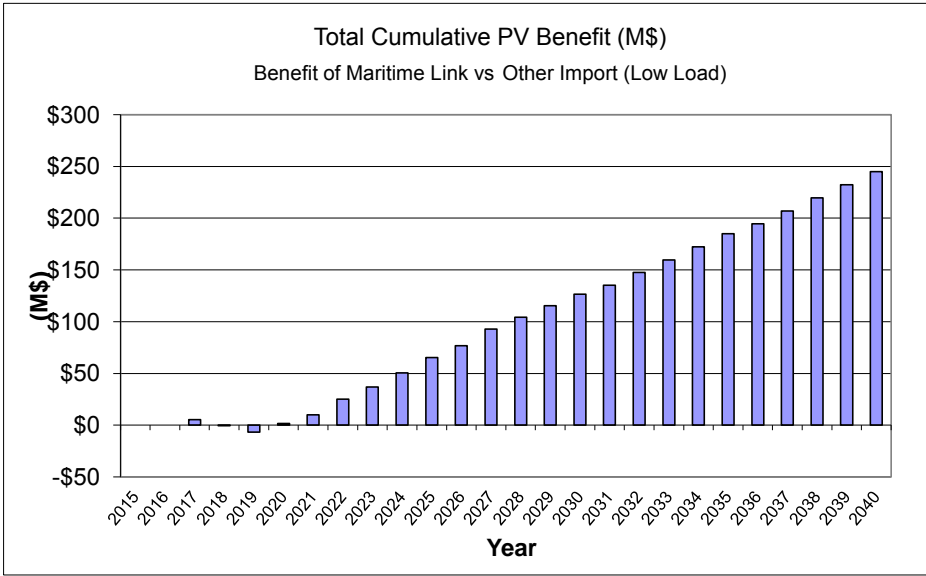
Year	Maritime Link (k\$)	Other Import (k\$)	Benefit Nominal \$ (k\$)
2015	585,164	\$585,164	0
2016	609,145	\$609,145	0
2017	613,994	\$634,032	20,038
2018	557,858	\$649,416	91,558
2019	568,403	\$663,492	95,089
2020	514,593	\$619,254	104,661
2021	520,808	\$631,260	110,452
2022	533,691	\$645,415	111,725
2023	523,976	\$628,963	104,987
2024	527,771	\$634,975	107,204
2025	535,734	\$645,011	109,277
2026	538,910	\$650,148	111,238
2027	543,351	\$656,798	113,447
2028	547,453	\$663,385	115,932
2029	548,581	\$666,315	117,734
2030	556,704	\$676,022	119,317
2031	559,674	\$682,196	122,522
2032	564,420	\$688,796	124,375
2033	574,028	\$699,368	125,340
2034	584,106	\$712,656	128,550
2035	596,459	\$727,408	130,948
2036	606,571	\$737,793	131,222
2037	616,467	\$750,246	133,779
2038	626,094	\$763,298	137,204
2039	635,855	\$775,314	139,458
2040	645,399	\$787,663	142,264
		<b>NPV (2015 k\$)</b>	<b>1,185,732</b>

Capital Costs:

Year	Maritime Link (k\$)	Other Import (k\$)	Benefit Nominal \$ (k\$)
2015	0	0	0
2016	0	0	0
2017	22,033	8,118	-13,916
2018	155,703	56,906	-98,797
2019	160,477	57,450	-103,027
2020	151,105	57,845	-93,260
2021	155,948	58,103	-97,845
2022	146,514	58,234	-88,279
2023	143,824	58,249	-85,574
2024	141,413	58,158	-83,255
2025	139,011	57,968	-81,043
2026	146,145	57,687	-88,458
2027	135,823	57,324	-78,499
2028	147,261	56,883	-90,377
2029	146,988	56,373	-90,615
2030	145,738	55,797	-89,941
2031	153,641	55,162	-98,479
2032	142,802	54,471	-88,331
2033	141,185	53,731	-87,454
2034	139,471	52,944	-86,527
2035	137,673	52,114	-85,559
2036	146,337	51,245	-95,092
2037	133,855	50,340	-83,515
2038	131,858	49,401	-82,457
2039	129,802	48,432	-81,370
2040	127,698	47,435	-80,263
		<b>NPV (2015 k\$)</b>	<b>-940,856</b>

Total Cumulative PV Benefit (\$2015) (M\$)
0
0
5
-1
-7
2
10
25
37
50
65
77
93
104
115
127
135
148
160
172
185
194
207
220
232
245

Total Cumulative PV Benefit 2015-2040 **245 M\$**  
 (Discount Rate is 6.56%)



PV Benefit of Maritime Link vs Indigenous Wind (Low Load)

Operating Costs:

Year	Maritime Link (k\$)	Indigenous Wind With Integration Costs (k\$)	Benefit Nominal \$ (k\$)
2015	585,164	\$585,164	0
2016	609,145	\$609,145	0
2017	613,994	\$637,893	23,900
2018	557,858	\$651,539	93,681
2019	568,403	\$640,729	72,326
2020	514,593	\$577,413	62,820
2021	520,808	\$584,542	63,734
2022	533,691	\$590,506	56,815
2023	523,976	\$572,482	48,506
2024	527,771	\$579,144	51,373
2025	535,734	\$588,961	53,227
2026	538,910	\$592,596	53,686
2027	543,351	\$598,143	54,791
2028	547,453	\$611,422	63,968
2029	548,581	\$632,453	83,872
2030	556,704	\$628,190	71,486
2031	559,674	\$641,840	82,166
2032	564,420	\$638,442	74,021
2033	574,028	\$661,255	87,227
2034	584,106	\$669,741	85,635
2035	596,459	\$688,832	92,372
2036	606,571	\$704,346	97,775
2037	616,467	\$720,671	104,204
2038	626,094	\$734,604	108,510
2039	635,855	\$750,659	114,804
2040	645,399	\$764,464	119,065
		<b>NPV (2015 k\$)</b>	<b>769,038</b>

Capital Costs:

Year	Maritime Link (k\$)	Indigenous Wind With Integration Costs (k\$)	Benefit Nominal \$ (k\$)
2015	0	0	0
2016	0	0	0
2017	22,033	0	-22,033
2018	155,703	0	-155,703
2019	160,477	80,003	-80,475
2020	151,105	37,297	-113,809
2021	155,948	77,174	-78,773
2022	146,514	97,612	-48,902
2023	143,824	107,479	-36,345
2024	141,413	111,585	-29,829
2025	139,011	112,540	-26,472
2026	146,145	111,760	-34,386
2027	135,823	110,015	-25,808
2028	147,261	107,725	-39,536
2029	146,988	105,118	-41,869
2030	145,738	151,915	6,177
2031	153,641	148,099	-5,542
2032	142,802	144,202	1,400
2033	141,185	140,245	-940
2034	139,471	136,243	-3,228
2035	137,673	186,958	49,285
2036	146,337	181,896	35,559
2037	133,855	176,806	42,951
2038	131,858	171,690	39,832
2039	129,802	162,323	32,521
2040	127,698	118,152	-9,546
		<b>NPV (2015 k\$)</b>	<b>-447,086</b>

Total Cumulative PV Benefit (\$2015) (M\$)	
2015	0
2016	0
2017	2
2018	-50
2019	-56
2020	-93
2021	-103
2022	-98
2023	-91
2024	-79
2025	-65
2026	-55
2027	-41
2028	-31
2029	-14
2030	16
2031	44
2032	70
2033	97
2034	122
2035	162
2036	197
2037	233
2038	268
2039	300
2040	322

**Total Cumulative PV Benefit 2015-2040 322 M\$**  
(Discount Rate is 6.56%)

