

ECONOMIC FEASIBILITY

METHODOLOGY

1. The economic feasibility of the project has been determined using the methodology that adheres to the *“Ontario Energy Board Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario”* and the EBO 188 *“Report of the Board”* dated January 30, 1998.
2. The economic feasibility evidence for the Georgian Sands Project (the “Project”) has been prepared based on the feasibility parameters of Enbridge Gas Inc. (“Enbridge”), pursuant to the Ontario Energy Board’s (the “Board”) Decision with Reasons in Enbridge’s EB-2017-0086 Rate application. The economic feasibility of the project has been calculated by discounting the incremental cash flows forecasted over the customer revenue horizon from the forecasted customer additions in years 2020 to 2023. The resulting Net Present Value (“NPV”) represents the economic feasibility of the project.

KEY ASSUMPTIONS

Feasibility Parameters

3. The feasibility for the project has been prepared based on Enbridge’s latest feasibility parameters as detailed at page 4 of this exhibit.

Project Revenue Horizon

4. The project revenue horizon is 40 years.

Capital Costs

5. The project’s upfront capital cost is estimated to be \$2,827,537 and includes the costs for mains, station, land rights, contingencies, and overheads. The detailed

capital cost estimate is provided at Exhibit D, Tab 2, Schedule 1. The construction period is assumed to be six months.

6. The estimated capital cost associated with attaching 1,174 customers is \$2,947,298. Included in this figure are the forecasted costs for distribution mains, services, and meters. The Company is not seeking approval for these costs in this application; they have been included in the feasibility analysis for completeness.

Summary

7. The project has a Profitability Index ("PI") of 1.00, as outlined in the DCF schedule on pages 5 to 8 of this exhibit.
8. The project meets the minimum project acceptance threshold as prescribed in EBO 188, and thus qualifies for approval by the Board on the basis of this analysis.
9. A summary of the inputs and results of the feasibility is provided on page 3 of this exhibit, while pages 4 to 8 of this exhibit show detailed feasibility parameters and results.

SUMMARY OF INPUTS

Capital Investment

2019 - Reinforcement

Reinforcement Main	\$2,580,484
Station	\$227,403
Land Rights	<u>\$19,650</u>
	\$2,827,537

2020-2023 – Distribution

Mains	\$1,180,870
Services	1,291,887
Meters	<u>474,542</u>
	*\$2,947,298

*Note*Values may not add up due to rounding*

Total Capital	\$5,774,835
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Annual Volumes (m³)

Rate 1	2,763,576
Rate 6	135,975
Total	2,899,551

Customer Additions

Residential	1,172
Commercial	2
Total Customers	1,174

SUMMARY OF RESULTS

Net Present Value (NPV*)	\$0.0
Profitability Index (PI*)	1.00
Customer Contribution in Aid of Construction (CIAC)	\$1,118,094

* NPV and PI calculations are carried out over 40 years

Georgian Sands
 Economic Feasibility
 Parameters and Results

<u>Col. 1</u>	<u>Col. 2</u>
Line No.	Description
FEASIBILITY PARAMETERS	
1.	Discount Rate 5.43%
2.	CCA Rate 6.00%
3.	Tax Rate 26.50%
4.	Customer Revenue Horizon (Years) 40
5.	Annual Volumes (m ³) 2,899,551
6.	Annual Distribution Revenues (Dollars) 528,793
7.	Annual O&M (Dollars) 80,584
8.	Capital Investment (Dollars) 5,774,835
Working Capital	
9.	O&M (Lead days) (10.90)
10.	Commodity (Lag days) 2.28
FEASIBILITY RESULTS	
11.	Net Present Value (Dollars) -
12.	Profitability Index 1.00
13.	Contribution in Aid of Construction (Dollars) 1,118,094

Georgian Sands
Economic Feasibility - 40 year Horizon
DCF Analysis

Line No.	Col.1 Description	Col.2 Year 0	Col.3 Year 1	Col.4 Year 2	Col.5 Year 3	Col.6 Year 4	Col.7 Year 5	Col.8 Year 6	Col.9 Year 7	Col.10 Year 8	Col.11 Year 9	Col.12 Year 10
	INCREMENTAL CAPITAL INVESTMENT											
1.	Investment in Reinforcement Mains	(2,580,484)										
2.	Investment in Station	(227,403)										
3.	Investment in Land Rights	(19,650)										
4.	Investment in Distribution Mains	(433,726)	(433,726)	(193,798)	(348,616)	(204,731)						
5.	Investment in Services	(357,499)	(357,499)	(175,990)	(351,144)	(407,499)						
6.	Investment in Meters	(131,122)	(131,122)	(64,552)	(129,525)	(149,342)						
7.	Contribution In Aid Of Construction	1,118,084										
8.	Net Investment Capital	(1,709,443)	(922,347)	(434,349)	(829,285)	(761,317)						
9.	Working Capital		574	282	555	665						
10.	Total Investment	(4,289,984)	(921,773)	(434,067)	(828,730)	(760,652)						
11.	PV Of Total Investment At Project Outset											
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)
	CCA TAX SHIELD											
13.	CCA Tax Shield		20,814	43,832	51,250	60,821	63,226	59,434	55,869	52,518	49,368	46,407
14.	PV Of CCA Tax Shield At Project Outset		19,829	39,610	43,929	49,451	48,760	43,476	38,765	34,564	30,819	27,479
15.	ACCUMULATED PV OF CCA TAX SHIELD		19,829	59,439	103,369	152,819	201,579	245,055	283,820	318,384	349,202	376,682
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)											
16.	Gas Distribution Revenue		72,066	179,611	289,018	445,870	528,793	528,793	528,793	528,793	528,793	528,793
17.	Gas Costs		(7,264)	(18,105)	(29,721)	(46,165)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)
18.	O&M Expenses		(11,125)	(27,726)	(44,175)	(67,866)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)
19.	Net Operating Cash (Before Taxes)		53,677	133,780	215,122	331,839	393,639	393,639	393,639	393,639	393,639	393,639
20.	PV of Net Operating Cash (Before Taxes) At Project Outset		51,139	120,894	184,395	269,801	303,574	287,948	273,127	259,069	245,735	233,087
21.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)		51,139	172,033	356,428	626,229	929,802	1,217,751	1,490,878	1,749,948	1,995,682	2,228,769
	TAXES											
22.	Income Tax (Before Interest Tax Shield)		(7,520)	(27,794)	(47,621)	(77,249)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)
23.	Municipal Tax		(25,300)	(28,896)	(35,419)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)
24.	Total Taxes		(32,820)	(56,690)	(83,040)	(117,583)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)
25.	PV of Total Taxes At Project Outset		(31,268)	(51,230)	(71,179)	(95,600)	(103,310)	(97,982)	(92,948)	(88,164)	(83,636)	(79,322)
26.	ACCUMULATED PV OF TOTAL TAXES		(31,268)	(82,498)	(153,677)	(249,277)	(382,587)	(450,579)	(543,527)	(631,692)	(715,318)	(794,640)
	ACCUMULATED NPV AND PI											
27.	Net Present Value	(4,289,984)	(4,250,284)	(4,141,010)	(3,983,864)	(3,760,213)	(3,511,190)	(3,277,757)	(3,058,814)	(2,853,344)	(2,660,417)	(2,479,174)
28.	Profitability Index		0.01	0.03	0.07	0.12	0.18	0.24	0.29	0.33	0.38	0.42

Note a) Construction period from August 1 2019 to December 31 2019 considered mid-term discounting, 0.5*512 = 0.208. August 1 2019 is project outset as time 0.

Note b) Year 1 Revenues start from January 1 2020 to December 31 2020.
Year 2 Revenues start from January 1 2021 to December 31 2021, and so on.

Georgian Sands
 Economic Feasibility - 40 year Horizon
 DCF Analysis

Line No.	Col_1	Col_13	Col_14	Col_15	Col_16	Col_17	Col_18	Col_19	Col_20	Col_21	Col_22
	Description	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	INCREMENTAL CAPITAL INVESTMENT										
1.	Investment in Reinforcement Mains	-	-	-	-	-	-	-	-	-	-
2.	Investment in Station	-	-	-	-	-	-	-	-	-	-
3.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-
4.	Investment in Distribution Mains	-	-	-	-	-	-	-	-	-	-
5.	Investment in Services	-	-	-	-	-	-	-	-	-	-
6.	Investment in Meters	-	-	-	-	-	-	-	-	-	-
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	-	-	-	-	-	-	-	-	-	-
9.	Working Capital	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	-	-	-	-	-	-	-	-	-	-
11.	PV Of Total Investment At Project Outset	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)
12.	ACCUMULATED PV OF TOTAL INVESTMENT										
	CCA TAX SHIELD										
13.	CCA Tax Shield	43,624	41,007	38,548	36,236	34,062	32,019	30,099	28,294	26,597	25,002
14.	PV Of CCA Tax Shield At Project Outset	24,501	21,846	19,479	17,368	15,486	13,808	12,312	10,978	9,788	8,728
15.	ACCUMULATED PV OF CCA TAX SHIELD	401,183	423,029	442,508	459,877	475,363	489,171	501,483	512,461	522,249	530,977
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)										
16.	Gas Distribution Revenue	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793
17.	Gas Costs	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)
18.	O&M Expenses	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)
19.	Net Operating Cash (Before Taxes)	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639
20.	PV of Net Operating Cash (Before Taxes) At Project Outset	221,089	209,710	198,916	188,678	178,966	169,755	161,017	152,729	144,868	137,412
21.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	2,449,859	2,659,568	2,858,484	3,047,162	3,226,128	3,395,882	3,556,900	3,709,629	3,854,497	3,991,909
	TAXES										
22.	Income Tax (Before Interest Tax Shield)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)
23.	Municipal Tax	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)
24.	Total Taxes	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)
25.	PV of Total Taxes At Project Outset	(71,367)	(67,693)	(64,209)	(60,904)	(57,768)	(54,798)	(51,976)	(49,300)	(46,763)	(44,330)
26.	ACCUMULATED PV OF TOTAL TAXES	(869,879)	(941,246)	(1,008,939)	(1,073,148)	(1,134,053)	(1,191,822)	(1,246,616)	(1,298,594)	(1,347,894)	(1,394,657)
	ACCUMULATED NPV AND PI										
27.	Net Present Value	(2,308,822)	(2,148,632)	(1,997,931)	(1,856,094)	(1,722,546)	(1,596,782)	(1,478,219)	(1,366,488)	(1,261,131)	(1,161,755)
28.	Profitability Index	0.46	0.50	0.53	0.57	0.60	0.63	0.66	0.68	0.71	0.73

Note a) Construction period from August 1 2019 to December 31 2019 considered mid-term discounting, 0.5* 5/12 = 0.208. August 1 2019 is project outset as time 0.
 Note b) Year 1 Revenues start from January 1 2020 to December 31 2020.
 Year 2 Revenues start from January 1 2021 to December 31 2021, and so on.

Georgian Sands
 Economic Feasibility - 40 year Horizon
 DCF Analysis

Line No.	Col_1	Col_23	Col_24	Col_25	Col_26	Col_27	Col_28	Col_29	Col_30	Col_31	Col_32
	Description	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
	INCREMENTAL CAPITAL INVESTMENT										
1.	Investment in Reinforcement Mains										
2.	Investment in Station										
3.	Investment in Land Rights										
4.	Investment in Distribution Mains										
5.	Investment in Services										
6.	Investment in Meters										
7.	Contribution In Aid Of Construction										
8.	Net Investment Capital										
9.	Working Capital										
10.	Total Investment										
11.	PV Of Total Investment At Project Outset										
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)
	CCA TAX SHIELD										
13.	CCA Tax Shield	23,502	22,093	20,768	19,522	18,351	17,251	16,216	15,243	14,329	13,470
14.	PV Of CCA Tax Shield At Project Outset	7,782	6,939	6,187	5,516	4,919	4,386	3,910	3,487	3,109	2,772
15.	ACCUMULATED PV OF CCA TAX SHIELD	538,759	545,697	551,884	557,400	562,319	566,705	570,615	574,102	577,211	579,983
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)										
16.	Gas Distribution Revenue	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793
17.	Gas Costs	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)
18.	O&M Expenses	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)
19.	Net Operating Cash (Before Taxes)	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639
20.	PV of Net Operating Cash (Before Taxes) At Project Outset	130,339	123,630	117,267	111,231	105,506	100,076	94,925	90,039	85,404	81,009
21.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	4,122,248	4,245,879	4,363,146	4,474,377	4,579,883	4,679,959	4,774,884	4,864,923	4,950,327	5,031,336
	TAXES										
22.	Income Tax (Before Interest Tax Shield)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)
23.	Municipal Tax	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)
24.	Total Taxes	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)
25.	PV of Total Taxes At Project Outset	(44,356)	(42,073)	(39,907)	(37,853)	(35,905)	(34,057)	(32,304)	(30,641)	(29,064)	(27,568)
26.	ACCUMULATED PV OF TOTAL TAXES	(1,439,013)	(1,481,085)	(1,520,993)	(1,558,846)	(1,594,751)	(1,628,808)	(1,661,112)	(1,691,753)	(1,720,817)	(1,748,388)
	ACCUMULATED NPV AND PI										
27.	Net Present Value	(1,067,990)	(979,493)	(895,947)	(817,052)	(742,533)	(672,128)	(605,597)	(542,713)	(483,264)	(427,051)
28.	Profitability Index	0.75	0.77	0.79	0.81	0.83	0.84	0.86	0.87	0.89	0.90

Note a) Construction period from August 1 2019 to December 31 2019 considered mid-term discounting, 0.5* 512 = 0.208. August 1 2019 is project outset as time 0.
 Note b) Year 1 Revenues start from January 1 2020 to December 31 2020.
 Year 2 Revenues start from January 1 2021 to December 31 2021, and so on.

Georgian Sands
 Economic Feasibility - 40 year Horizon
 DCF Analysis

Line No.	Col. 1 Description	Col. 33 Year 31	Col. 34 Year 32	Col. 35 Year 33	Col. 36 Year 34	Col. 37 Year 35	Col. 38 Year 36	Col. 39 Year 37	Col. 40 Year 38	Col. 41 Year 39	Col. 43 Year 40
	INCREMENTAL CAPITAL INVESTMENT										
1.	Investment in Reinforcement Mains										-
2.	Investment in Station										-
3.	Investment in Land Rights										-
4.	Investment in Distribution Mains										-
5.	Investment in Services										-
6.	Investment in Meters										-
7.	Contribution In Aid Of Construction										-
8.	Net Investment Capital										-
9.	Working Capital										-
10.	Total Investment										-
11.	PV Of Total Investment At Project Outset										-
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)	(4,289,984)
	CCA TAX SHIELD										
13.	CCA Tax Shield	12,662	11,903	11,189	10,518	9,887	9,294	8,737	8,213	7,720	66,979
14.	PV Of CCA Tax Shield At Project Outset	2,472	2,204	1,965	1,752	1,562	1,393	1,242	1,107	987	8,126
15.	ACCUMULATED PV OF CCA TAX SHIELD	582,454	584,658	586,623	588,375	589,838	591,331	592,573	593,660	594,668	602,794
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)										
16.	Gas Distribution Revenue	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793	528,793
17.	Gas Costs	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)	(54,570)
18.	O&M Expenses	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)	(80,584)
19.	Net Operating Cash (Before Taxes)	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639	393,639
20.	PV of Net Operating Cash (Before Taxes) At Project Outset	76,839	72,884	69,133	65,574	62,199	58,998	55,961	53,081	50,349	47,757
21.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	5,108,175	5,181,059	5,250,191	5,315,766	5,377,965	5,436,962	5,492,924	5,546,004	5,596,353	5,644,110
	TAXES										
22.	Income Tax (Before Interest Tax Shield)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)	(93,626)
23.	Municipal Tax	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)	(40,334)
24.	Total Taxes	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)	(133,960)
25.	PV of Total Taxes At Project Outset	(26,148)	(24,803)	(23,527)	(22,316)	(21,167)	(20,078)	(19,044)	(18,064)	(17,134)	(16,252)
26.	ACCUMULATED PV OF TOTAL TAXES	(1,774,554)	(1,799,358)	(1,822,864)	(1,845,180)	(1,866,347)	(1,886,425)	(1,905,469)	(1,923,533)	(1,940,667)	(1,956,919)
	ACCUMULATED NPV AND PI										
27.	Net Present Value	(373,890)	(323,005)	(276,034)	(231,023)	(188,429)	(148,116)	(109,967)	(73,853)	(39,631)	-
28.	Profitability Index	0.91	0.92	0.94	0.95	0.96	0.97	0.97	0.98	0.99	1.00

Note a) Construction period from August 1 2019 to December 31 2019 considered mid-term discounting, 0.5* 512 = 0.208. August 1 2019 is project outset as time 0.
 Note b) Year 1 Revenues start from January 1 2020 to December 31 2020.
 Year 2 Revenues start from January 1 2021 to December 31 2021, and so on.