

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 Project has been prepared based on the feasibility parameters of Enbridge Gas Distribution Inc. (“Enbridge” and/or the “Company”), pursuant to the Ontario Energy Board’s (the “Board”) Decision with Reasons in the Company’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 2019 to 2021. 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 \$3,623,263 and includes the costs for mains, 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 five months.

6. The estimated capital cost associated with attaching 7 condominium and mixed use customers is \$238,054. Included in this figure are the forecasted costs for services, meters and stations. The Company is not seeking approval for these costs in this application as the costs have been included in the feasibility analysis.

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's 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

2018

Main and Land Rights	\$3,623,263
Services	67,842
Meters	1,040
Stations	<u>169,172</u>
Total Capital	3,861,317

Annual Volumes (m³)

Rate 6	4,071,858
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Customer Additions

Commercial	7
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SUMMARY OF RESULTS

Net Present Value (NPV*)	\$0.0
Profitability Index (PI*)	1.00
Customer Contribution in Aid of Construction (CIAC)	\$2,436,691

* NPV and PI calculations are carried out over 40 years

Liberty Village
 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) 4,071,858
6.	Annual Distribution Revenues (Dollars) 179,231
7.	Annual O&M (Dollars) 1,225
8.	Capital Investment (Dollars) 3,861,317
Working Capital	
9.	O&M (Lead days) (10.90)
10.	Commodity (Lag days) 2.20
FEASIBILITY RESULTS	
11.	Net Present Value (Dollars) -
12.	Profitability Index 1.00
13.	Contribution in Aid of Construction (Dollars) 2,436,691

Liberty Village
 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 Mains including Land Rights	(3,623,263)	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	(36,969)	-	-	(30,873)	-	-	-	-	-	-	-
3.	Investment in Meters	(1,040)	-	-	-	-	-	-	-	-	-	-
4.	Investment in Stations	(127,384)	-	-	(41,788)	-	-	-	-	-	-	-
5.	Contribution In Aid Of Construction	2,436,691	-	-	-	-	-	-	-	-	-	-
6.	Net Investment Capital	(1,351,965)	-	-	(72,661)	-	-	-	-	-	-	-
7.	Working Capital	(249)	(249)	-	(111)	-	-	-	-	-	-	-
8.	Total Investment	(1,351,965)	(249)	-	(72,772)	-	-	-	-	-	-	-
9.	PV Of Total Investment At Project Outset	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)
10.	ACCUMULATED PV OF TOTAL INVESTMENT											
	CCA TAX SHIELD											
11.	CCA Tax Shield		10,633	20,629	19,972	19,353	18,194	17,105	16,081	15,118	14,212	13,361
12.	PV Of CCA Tax Shield At Project Outset		10,130	18,641	17,118	15,733	14,030	12,510	11,155	9,947	8,870	7,909
13.	ACCUMULATED PV OF CCA TAX SHIELD		10,130	28,771	45,889	61,622	75,652	88,162	98,317	109,264	118,134	126,044
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)											
14.	Gas Distribution Revenue		62,438	124,877	152,054	179,231	179,231	179,231	179,231	179,231	179,231	179,231
15.	Gas Costs		(22,833)	(45,665)	(55,701)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)
16.	O&M Expenses		(438)	(875)	(1,050)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)
17.	Net Operating Cash (Before Taxes)		39,168	78,337	95,303	112,270	112,270	112,270	112,270	112,270	112,270	112,270
18.	PV of Net Operating Cash (Before Taxes) At Project Outset		37,315	70,787	81,684	91,270	86,570	82,112	77,883	73,872	70,068	66,459
19.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)		37,315	108,102	189,786	281,057	367,627	449,738	527,621	601,494	671,561	738,021
	TAXES											
20.	Income Tax (Before Interest Tax Shield)		(9,318)	(19,698)	(24,194)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)
21.	Municipal Tax		(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)
22.	Total Taxes		(13,324)	(23,704)	(28,200)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)
23.	PV of Total Taxes At Project Outset		(12,694)	(24,419)	(24,170)	(25,212)	(25,212)	(23,913)	(22,682)	(21,514)	(20,406)	(19,355)
24.	ACCUMULATED PV OF TOTAL TAXES		(12,694)	(34,113)	(58,283)	(84,864)	(110,075)	(133,988)	(156,670)	(178,184)	(198,589)	(217,944)
25.	ACCUMULATED NPV AND PI											
	Net Present Value	(1,401,228)	(1,366,476)	(1,288,467)	(1,223,836)	(1,143,413)	(1,068,025)	(997,316)	(930,959)	(868,653)	(810,121)	(755,107)
26.	Profitability Index		0.025	0.073	0.127	0.184	0.238	0.288	0.336	0.380	0.422	0.461

Note a) Construction period from September 1, 2018 to January 31, 2019 considered mid-term discounting, 0.5* 5/12 = 0.208, September 1, 2019 is project outset as time 0.
 Note b) Year 1 Revenues start from Feb 1, 2019 to Jan 31, 2020, Year 2 Revenues start from Feb 1, 2020 to Jan 31, 2021, and so on.

Liberty Village
 Economic Feasibility - 40 year Horizon
 DCF Analysis

Line No.	Col. 1 Description	Col. 13 Year 11	Col. 14 Year 12	Col. 15 Year 13	Col. 16 Year 14	Col. 17 Year 15	Col. 18 Year 16	Col. 19 Year 17	Col. 20 Year 18	Col. 21 Year 19	Col. 22 Year 20
	INCREMENTAL CAPITAL INVESTMENT										
1.	Investment in Mains including Land Rights	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-
3.	Investment in Meters	-	-	-	-	-	-	-	-	-	-
4.	Investment in Stations	-	-	-	-	-	-	-	-	-	-
5.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-
6.	Net Investment Capital	-	-	-	-	-	-	-	-	-	-
7.	Working Capital	-	-	-	-	-	-	-	-	-	-
8.	Total Investment	-	-	-	-	-	-	-	-	-	-
9.	PV Of Total Investment At Project Outset	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)
10.	ACCUMULATED PV OF TOTAL INVESTMENT										
	CCA TAX SHIELD										
11.	CCA Tax Shield	12,561	11,809	11,102	10,438	9,813	9,225	8,673	8,154	7,865	7,207
12.	PV Of CCA Tax Shield At Project Outset	7,053	6,289	5,608	5,001	4,459	3,976	3,546	3,162	2,819	2,514
13.	ACCUMULATED PV OF CCA TAX SHIELD	133,097	139,386	144,994	149,995	154,454	158,431	161,976	165,138	167,958	170,472
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)										
14.	Gas Distribution Revenue	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231
15.	Gas Costs	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)
16.	O&M Expenses	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)
17.	Net Operating Cash (Before Taxes)	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270
18.	PV of Net Operating Cash (Before Taxes) At Project Outset	63,037	59,791	56,711	53,791	51,021	48,393	45,901	43,537	41,295	39,168
19.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	801,058	860,848	917,560	971,351	1,022,371	1,070,765	1,116,665	1,160,203	1,201,498	1,240,666
	TAXES										
20.	Income Tax (Before Interest Tax Shield)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)
21.	Municipal Tax	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)
22.	Total Taxes	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)
23.	PV of Total Taxes At Project Outset	(18,358)	(17,413)	(16,516)	(15,665)	(14,859)	(14,093)	(13,368)	(12,679)	(12,026)	(11,407)
24.	ACCUMULATED PV OF TOTAL TAXES	(236,302)	(253,715)	(270,231)	(285,896)	(300,755)	(314,848)	(328,216)	(340,895)	(352,921)	(364,328)
	ACCUMULATED NPV AND PI										
25.	Net Present Value	(703,375)	(654,708)	(608,905)	(565,778)	(525,157)	(486,881)	(450,802)	(416,782)	(384,694)	(354,418)
26.	Profitability Index	0.496	0.533	0.565	0.596	0.625	0.653	0.678	0.703	0.725	0.747

Note a) Construction period from September 1, 2018 to January 31, 2019 conts
 Note b) Year 1 Revenues start from Feb 1, 2019 to Jan 31, 2020, Year 2 Reve

Liberty Village
 Economic Feasibility - 40 year Horizon
 DCF Analysis

Line No.	Col.1 Description	Col.23 Year 21	Col.24 Year 22	Col.25 Year 23	Col.26 Year 24	Col.27 Year 25	Col.28 Year 26	Col.29 Year 27	Col.30 Year 28	Col.31 Year 29	Col.32 Year 30
	INCREMENTAL CAPITAL INVESTMENT										
1.	Investment in Mains including Land Rights	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-
3.	Investment in Meters	-	-	-	-	-	-	-	-	-	-
4.	Investment in Stations	-	-	-	-	-	-	-	-	-	-
5.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-
6.	Net Investment Capital	-	-	-	-	-	-	-	-	-	-
7.	Working Capital	-	-	-	-	-	-	-	-	-	-
8.	Total Investment	-	-	-	-	-	-	-	-	-	-
9.	PV Of Total Investment At Project Outset	-	-	-	-	-	-	-	-	-	-
10.	ACCUMULATED PV OF TOTAL INVESTMENT	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)
	CCA TAX SHIELD										
11.	CCA Tax Shield	6,775	6,370	5,988	5,630	5,293	4,976	4,678	4,398	4,135	3,887
12.	PV Of CCA Tax Shield At Project Outset	2,242	1,999	1,783	1,590	1,418	1,264	1,127	1,005	896	799
13.	ACCUMULATED PV OF CCA TAX SHIELD	172,714	174,713	176,496	178,086	179,503	180,767	181,895	182,900	183,796	184,595
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)										
14.	Gas Distribution Revenue	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231
15.	Gas Costs	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)
16.	O&M Expenses	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)
17.	Net Operating Cash (Before Taxes)	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270
18.	PV of Net Operating Cash (Before Taxes) At Project Outset	37,151	35,238	33,423	31,702	30,069	28,521	27,052	25,659	24,338	23,084
19.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,277,817	1,313,055	1,346,479	1,378,181	1,408,250	1,436,771	1,463,823	1,489,482	1,513,820	1,536,904
	TAXES										
20.	Income Tax (Before Interest Tax Shield)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)
21.	Municipal Tax	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)
22.	Total Taxes	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)
23.	PV of Total Taxes At Project Outset	(10,819)	(10,262)	(9,734)	(9,233)	(8,757)	(8,306)	(7,878)	(7,473)	(7,088)	(6,723)
24.	ACCUMULATED PV OF TOTAL TAXES	(375,148)	(385,410)	(395,144)	(404,376)	(413,133)	(421,439)	(429,318)	(436,790)	(443,878)	(450,601)
	ACCUMULATED NPV AND PI										
25.	Net Present Value	(325,844)	(298,869)	(273,397)	(249,338)	(226,608)	(205,129)	(184,828)	(165,656)	(147,490)	(130,329)
26.	Profitability Index	0.767	0.787	0.805	0.822	0.838	0.854	0.868	0.882	0.895	0.907

Note a) Construction period from September 1, 2018 to January 31, 2019 conts
 Note b) Year 1 Revenues start from Feb 1, 2019 to Jan 31, 2020, Year 2 Reve

Liberty Village
 Economic Feasibility - 40 year Horizon
 DCF Analysis

Line No.	Description	Col.1 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 Mains including Land Rights	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-
3.	Investment in Meters	-	-	-	-	-	-	-	-	-	-
4.	Investment in Stations	-	-	-	-	-	-	-	-	-	-
5.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-
6.	Net Investment Capital	-	-	-	-	-	-	-	-	-	-
7.	Working Capital	-	-	-	-	-	-	-	-	-	-
8.	Total Investment	-	-	-	-	-	-	-	-	-	-
9.	PV Of Total Investment At Project Outset	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)	(1,401,228)
10.	ACCUMULATED PV OF TOTAL INVESTMENT										
11.	CCA TAX SHIELD										
12.	CCA Tax Shield	3,655	3,436	3,230	3,037	2,855	2,685	2,524	2,373	2,231	19,378
13.	PV Of CCA Tax Shield At Project Outset	713	636	567	505	451	402	358	320	285	2,348
	ACCUMULATED PV OF CCA TAX SHIELD	185,308	185,944	186,511	187,016	187,467	187,869	188,227	188,547	188,832	191,180
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)										
14.	Gas Distribution Revenue	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231	179,231
15.	Gas Costs	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)	(65,736)
16.	O&M Expenses	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)	(1,225)
17.	Net Operating Cash (Before Taxes)	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270	112,270
18.	PV of Net Operating Cash (Before Taxes) At Project Outset	21,895	20,768	19,698	18,684	17,722	16,809	15,943	15,122	14,344	13,605
19.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,558,799	1,579,567	1,599,265	1,617,949	1,635,671	1,652,480	1,668,423	1,683,545	1,697,889	1,711,494
	TAXES										
20.	Income Tax (Before Interest Tax Shield)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)	(28,690)
21.	Municipal Tax	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)	(4,006)
22.	Total Taxes	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)	(32,696)
23.	PV of Total Taxes At Project Outset	(6,377)	(6,048)	(5,737)	(5,441)	(5,161)	(4,895)	(4,643)	(4,404)	(4,177)	(3,962)
24.	ACCUMULATED PV OF TOTAL TAXES	(466,977)	(463,025)	(468,762)	(474,203)	(479,364)	(484,259)	(488,903)	(493,307)	(497,484)	(501,446)
25.	ACCUMULATED NPV AND PI										
26.	Net Present Value	(114,088)	(98,742)	(84,214)	(70,466)	(57,455)	(45,139)	(33,480)	(22,442)	(11,991)	-
	Profitability Index	0.919	0.930	0.940	0.950	0.959	0.968	0.976	0.984	0.991	1.000

Note a) Construction period from September 1, 2018 to January 31, 2019 cont:
 Note b) Year 1 Revenues start from Feb 1, 2019 to Jan 31, 2020, Year 2 Reve