OPERATING REVENUE OVERVIEW

RACHEL GOODREAU, MANAGER REVENUE AND COST OF GAS

1. The purpose of this evidence is to summarize Enbridge Gas's utility operating revenue and to provide a description of the evidence set out in Exhibit 3.

2. Table 1 provides the 2013 OEB-approved utility operating revenue, volume and customer count and actual utility operating revenue, volume and customer count from 2013 to 2018 for EGD and Union. Table 2 provides actual utility operating revenue, volume and customer count for 2019 to 2021 and the 2022 Estimate, 2023 Bridge Year and 2024 Test Year Forecast of utility operating revenue, volume and customer count for Enbridge Gas.

Table 1
Utility Operating Revenue - EGD and Union

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Gas Sales & Distribution	EGD	2,317.3	2,450.0	2,859.5	2,890.2	2,582.3	2,769.1	2,847.3
2	Transportation	EGD	1.7	1.6	1.8	1.9	6.4	17.8	17.5
3	Storage	EGD	0.0	0.0	0.0	0.0	0.0	1.5	2.0
4	Other Operating Revenue & Other Income	EGD	45.0	42.8	43.9	50.1	43.0	42.4	42.5
5	Total		2,364.0	2,494.4	2,905.2	2,942.2	2,631.7	2,830.7	2,909.3
6	Volumes (10^6m^3)	EGD	11,230.7	12,355.2	13,357.0	12,632.4	11,524.0	11,574.4	13,054.0
7	Number of Customers	EGD	2,020,962	2,030,001	2,063,837	2,094,681	2,124,683	2,156,668	2,184,759
8	Gas Sales & Distribution	Union	1,448.8	1,605.3	1,761.5	1,659.3	1,514.5	1,857.0	1,793.1
9	Transportation	Union	157.0	160.1	151.4	156.2	182.7	236.9	258.9
10	Storage	Union	10.4	8.8	7.8	7.4	8.5	7.8	8.2
11	Other Operating Revenue & Other Income	Union	20.2	18.0	14.9	19.9	16.5	17.3	17.8
12	Total		1,636.3	1,792.3	1,935.5	1,842.8	1,722.3	2,119.0	2,078.0
13	Volumes (10^6m^3)	Union	14,657.2	14,545.3	14,747.1	13,879.4	13,375.2	12,842.4	13,725.3
14	Number of Customers	Union	1,400,391	1,387,409	1,407,191	1,426,862	1,446,779	1,466,223	1,486,771

Table 2
Utility Operating Revenue - EGI

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
1	Gas Sales & Distribution	EGI	4,631.5	4,118.8	4,480.6	4,947.2	5,664.5	5,851.6
2	Transportation	EGI	142.2	142.3	142.6	142.1	139.1	162.4
3	Storage	EGI	6.0	5.6	6.1	6.0	6.0	0.0
4	Other Operating Revenue & Other Income	EGI	47.8	52.2	50.0	60.0	63.2	64.3
5	Total		4,827.6	4,318.9	4,679.3	5,155.3	5,872.9	6,078.3
6	Volumes (10^6m^3)	EGI	27,175.5	25,478.2	25,792.8	27,117.6	27,647.5	27,922.9
7	Number of Customers	EGI	3,716,073	3,757,241	3,796,456	3,836,200	3,875,537	3,914,712

3. The calculation of year-over-year variances in utility operating revenue for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast has been provided at Attachment 1. Details of the variances are provided within the subsequent tabs of Exhibit 3.

4. For the 2024 Test Year, Enbridge Gas is requesting the OEB approve utility operating revenues of $6,078.3 million.

5. Enbridge Gas is requesting the OEB to approve the forecast methodologies and the various components supporting the 2024 Test Year Forecast provided at Exhibit 3 as set out below:

Exhibit 3, Tab 2, Schedule 3	Degree Day Forecasting
Exhibit 3, Tab 2, Schedule 5	General Service Average Use
Exhibit 3, Tab 2, Schedule 6	General Service Customer Additions & Average Number of Customers
Exhibit 3, Tab 2, Schedule 7	General Service Volume Forecast
Exhibit 3, Tab 2, Schedule 8	Distribution Contract Market Customer and Volume Forecast
Exhibit 3, Tab 6, Schedule 1	Heat Value Harmonization

6. Details regarding historical actuals for 2019 to 2021 and the 2022 Estimate, 2023 Bridge Year and 2024 Test Year Forecast are provided at Exhibit 3 as set out below:

Exhibit 3, Tab 2, Schedule 1	Operating Revenue
Exhibit 3, Tab 3, Schedule 1	Accuracy of Throughput Forecast & Variance Analysis
Exhibit 3, Tab 4, Schedule 1	Storage & Transportation Revenue/ Upstream Transportation Optimization
Exhibit 3, Tab 5, Schedule 1	Other Revenue

Comparison of Utility Operating Revenue 2019 Actual & 2020 Actual

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c) = (b-a)
1	Gas Sales & Distribution	4,631.5	4,118.8	(512.7)
2	Transportation	142.2	142.3	0.1
3	Storage	6.0	5.6	(0.4)
4	Other Operating Revenue & Other Income	47.8	52.2	4.4
5	Total	4,827.6	4,318.9	(508.6)

Comparison of Utility Operating Revenue 2020 Actual & 2021 Actual

Line No.	Particulars ($ millions)	2020 Actual	2021 Actual	2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c) = (b-a)
1	Gas Sales & Distribution	4,118.8	4,480.6	361.8
2	Transportation	142.3	142.6	0.3
3	Storage	5.6	6.1	0.5
4	Other Operating Revenue & Other Income	52.2	50.0	(2.2)
5	Total	4,318.9	4,679.3	360.3

Comparison of Utility Operating Revenue 2021 Actual & 2022 Estimate

Line No.	Particulars ($ millions)	2021 Actual	2022 Estimate	2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c) = (b-a)
1	Gas Sales & Distribution	4,480.6	4,947.2	466.7
2	Transportation	142.6	142.1	(0.5)
3	Storage	6.1	6.0	(0.2)
4	Other Operating Revenue & Other Income	50.0	60.0	10.0
5	Total	4,679.3	5,155.3	476.0

Comparison of Utility Operating Revenue 2022 Estimate & 2023 Bridge Year

Line No.	Particulars ($ millions)	2022 Estimate	2023 Bridge Year	2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c) = (b-a)
1	Gas Sales & Distribution	4,947.2	5,664.5	717.3
2	Transportation	142.1	139.1	(3.0)
3	Storage	6.0	6.0	0.0
4	Other Operating Revenue & Other Income	60.0	63.2	3.3
5	Total	5,155.3	5,872.9	717.6

Comparison of Utility Operating Revenue 2023 Bridge Year & 2024 Test Year

Line No.	Particulars ($ millions)	2023 Bridge Year	2024 Test Year	2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c) = (b-a)
1	Gas Sales & Distribution	5,664.5	5,851.6	187.1
2	Transportation	139.1	162.4	23.3
3	Storage	6.0	0.0	(6.0)
4	Other Operating Revenue & Other Income	63.2	64.3	1.0
5	Total	5,872.9	6,078.3	205.4

OPERATING REVENUE

RACHEL GOODREAU, MANAGER REVENUE AND COST OF GAS
GILMER BASHUALDO-HILARIO, MANAGER ECONOMIC EVALUATION & FORECAST
MAX HAGERMAN, MANAGER CAPACITY MANAGEMENT & UTILIZATION

1. The purpose of this evidence is to request approval of the 2024 Test Year operating revenue forecasts for general service, distribution contract market, storage & transportation revenue / upstream transportation optimization, and other revenue. This evidence also provides details of the revenue for each of the discrete operating revenue elements for the 2013 to 2018 historical years for EGD and Union, as well as the 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast for Enbridge Gas.

2. The 2024 Test Year revenue forecast was calculated using the 2023 rates proposed in Enbridge Gas's 2023 Rates Application[1], with the exception of one adjustment to Union South and Union North East commodity rates to address the difference between the reference price for these rate zones and the cost of the Gas Supply Plan. A discussion of this adjustment is provided at Exhibit 6, Tab 1, Schedule 2. The proposed 2023 rates were based on Enbridge Gas's 2019 to 2023 incentive rate model and the OEB-approved April 1, 2022 Quarterly Rate Adjustment Mechanism (QRAM).[2]

3. The 2023 Bridge Year revenue forecast was calculated using the 2023 rates proposed in Enbridge Gas's 2023 Rates Application.

[1] EB-2022-0133.
[2] EB-2022-0089.

4. The combined operating revenue presented in this evidence is included in the calculation of revenue deficiency, provided at Exhibit 6, Tab 1, Schedule 1.

5. This evidence is organized as follows:
    1. General Service Market Revenue
    2. Distribution Contract Market Revenue
    3. Storage and Transportation Revenue / Upstream Transportation Optimization
    4. Other Revenue

1. General Service Market Revenue

6. The calculation of the forecast of gas supply and delivery revenue for the general service market is underpinned by a number of components, including the degree day forecast, the average use forecast, the customer forecast, and the volume forecast. The details of those forecast components, can be found in the following exhibits:

    a) Degree day forecast — Exhibit 3, Tab 2, Schedule 3
    b) Average use forecast — Exhibit 3, Tab 2, Schedule 5
    c) Customer forecast — Exhibit 3, Tab 2, Schedule 6
    d) Volume forecast — Exhibit 3, Tab 2, Schedule 7

1.1. Gas Supply and Delivery Revenue for the General Service Market

7. Details of gas supply and delivery revenue by rate class for the general service market for 2013 to 2018 historical years for EGD and Union, as well as 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast for Enbridge Gas is provided at Attachment 1. A summary of 2019 to 2024

is provided at Table 1. The calculation of year-over-year variances has been provided at Attachment 2.

Table 1
Gas Supply & Delivery Revenue - General Service

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)
1	EGD Rate Zone	2,834.0	2,497.5	2,688.3	3,029.3	3,418.9	3,397.1
2	Union Rate Zone	1,525.5	1,341.0	1,453.5	1,616.1	1,919.9	2,057.1
3	Total General Service Revenue	4,359.5	3,838.5	4,141.9	4,645.4	5,338.8	5,454.2
4	Year-over-Year Change in Revenue	(193.8)	(521.0)	303.4	503.6	693.4	115.4

8. The 2024 Test Year Forecast of gas supply and delivery revenue for the general service market is $5,454.2 million, as provided at Attachment 1, page 4. There is a $115.4 million increase from the 2023 Bridge Year to the 2024 Test Year that is primarily attributable to the addition of a commodity rate adjustment for Union South and Union North East as provided at Exhibit 6, Tab 1, Schedule 2 and customer growth, partially offset by lower average use per customer.

9. The 2023 Bridge Year Forecast of gas supply and delivery revenue for the general service market is $5,338.8 million, as provided at Attachment 1, page 4. There is a $693.4 million increase from the 2022 Estimate to the 2023 Bridge Year Forecast that is attributable to higher gas commodity prices in 2023, proposed 2023 rates increases, customer growth, partially offset by warmer weather on a year-over-year basis, and lower average use per customer.

10. The 2022 Estimate of gas supply and delivery revenue for the general service market is $4,645.4 million, as provided at Attachment 1, page 4. There is a $503.5 million increase from the 2021 actuals to the 2022 Estimate Forecast that is attributable to colder weather on a year-over-year basis, rates increases, customer growth, and higher average use per customer.

11. The 2021 actual gas supply and delivery revenue for the general service market is $4,141.9 million, as provided at Attachment 1, page 4. There is a $303.4 million increase from the 2020 actuals to the 2021 actuals that is attributable to higher gas commodity prices in 2021, rates increases and customer growth, partially offset by warmer weather on a year-over-year basis and lower average use per customer.

12. The 2020 actual gas supply and delivery revenue for the general service market is $3,838.5 million, as provided at Attachment 1, page 4. There is a $521.0 million decrease from the 2019 actuals to the 2020 actuals that is attributable to lower gas commodity prices in 2020, warmer weather on a year-over-year basis, lower average use per customer partially offset by rates increases and customer growth.

1.2. Delivery Revenue for the General Service Market

13. Details of delivery revenue by rate class for the general service market for the 2024 Test Year Forecast for Enbridge Gas is provided at Attachment 3.

2. Distribution Contract Market Revenue

14. Details of gas supply and delivery revenue by rate class for the distribution contract market for 2013 to 2018 historical years for EGD and Union, as well as 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast for Enbridge Gas is provided at Attachment 1. The calculation of year-over-year variances is provided at Attachment 2.

15. The calculation of the forecast for gas supply and delivery revenue for the distribution contract market is underpinned by a number of components, including the distribution contract market customer forecast, volume forecast and contract demand (CD) forecast. A detailed description of how the customer, volume forecast for the distribution contract market was developed is provided at Exhibit 3, Tab 2, Schedule 8.

16. Details of the distribution contract market volume by rate class for 2013 to 2018 historical years for EGD and Union, as well as 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast for Enbridge Gas is provided at Exhibit 3, Tab 2, Schedule 8, Attachment 1.

17. Details of distribution contract market customers by rate class for 2013 to 2018 historical years of EGD and Union, as well as 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast is provided at Exhibit 3, Tab 2, Schedule 8, Attachment 2.

2.1. Gas Supply and Delivery Revenue for the Distribution Contract Market

18. Details of gas supply and delivery revenue by rate class for the distribution contract market for 2013 to 2018 historical years of EGD and Union, as well as 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast of Enbridge Gas is provided at Attachment 1 and a summary of 2019 to 2024 is provided at Table 2. The calculation of year-over-year variances has been provided at Attachment 2.

Table 2
Gas Supply & Delivery Revenue - Distribution Contract Market

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)
1	EGD Rate Zone	107.8	98.7	118.6	123.6	140.7	140.6
2	Union Rate Zone	208.9	212.9	236.8	234.9	250.9	256.8
3	Total Contract Revenue	316.7	311.6	355.4	358.5	391.5	397.4
4	Year-over-Year Change in Revenue	(11.4)	(5.1)	43.8	3.1	33.0	5.9

19. The 2024 Test Year Forecast of gas supply and delivery revenue for the distribution contract market is $397.4 million, as provided at Attachment 1, page 5. There is a $5.9 million increase from the 2023 Bridge Year to the 2024 Test Year that is primarily attributable to the addition of a commodity rate adjustment for Union South and Union North East as provided at Exhibit 6, Tab 1, Schedule 2 and growth from new and existing customers, partially offset by the impact of the accumulation of DSM volumes abatement.

20. The 2023 Bridge Year Forecast of gas supply and delivery revenue for the distribution contract market is $391.5 million, as provided at Attachment 1, page 5. There is a $33.0 million increase from the 2022 Estimate to the 2023 Bridge Year Forecast that is primarily due to higher commodity prices in 2023, increases in 2023 proposed distribution rates, and increases from new customer growth and expansions at existing customers.

21. The 2022 Estimate of gas supply and delivery revenue for the distribution contract market is $358.5 million, as provided at Attachment 1, page 5. There is a $3.1 million increase from the 2021 actual revenues to the 2022 Estimate that is primarily due to growth from new contract market customers and contract parameter changes in existing customers, rates increases and impact of colder weather partially offset by lower forecast utilization of Rate 25 sales service.

22. The 2021 actual of gas supply and delivery revenue for the distribution contract market is $355.4 million, as provided at Attachment 1, page 5. There is a $43.8 million increase from the 2020 actual revenues to the 2021 actual revenues that is due to an increase in commodity pricing in 2021, high utilization of Rate 25 sales services, customer growth and rates increases partially offset by the impact of warmer weather.

23. The 2020 actual of gas supply and delivery revenue for the distribution contract market is $311.6 million, as provided at Attachment 1, page 5. There is a $5.1 million decrease from the 2019 actual revenues to the 2020 actual revenues that is due to lower commodity rates in 2020 and the impact of warmer weather, partially offset by customer growth and rates increases.

2.2. Delivery Revenue for the Distribution Contract Market

24. Details of the delivery revenue by rate class for the distribution contract market the 2024 Test Year Forecast for Enbridge Gas is provided at Attachment 3.

3. Storage and Transportation Revenue / Upstream Transportation Optimization

25. Details of storage and transportation revenue / upstream transportation optimization for 2013 to 2018 historical years for EGD and Union, as well as 2019

to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast for Enbridge Gas is provided at Exhibit 3, Tab 4, Schedule 1, Attachment 1.

26. The calculation of year-over-year variances relating to storage and transportation revenue / upstream transportation optimization for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast is provided at Exhibit 3, Tab 4, Schedule 1, Attachment 2. Explanations for significant variances in year-over-year comparisons are provided at Exhibit 3, Tab 4, Schedule 1.

4. Other Revenue

27. Details of other revenue for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast for Enbridge Gas is provided at Exhibit 3, Tab 5, Schedule 1, Table 1.

28. The calculation of year-over-year variances relating to other revenue for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year, and 2024 Test Year Forecast is provided at Exhibit 3, Tab 5, Schedule 1, Attachment 1. Explanations for significant variances in year-over-year comparisons are provided at Exhibit 3, Tab 5, Schedule 1.

Revenue - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	General Service								
1	Rate 1	EGD	1,410.5	1,573.4	1,729.9	1,760.5	1,541.3	1,811.1	1,932.8
2	Rate 6	EGD	822.5	889.3	1,045.8	1,042.6	876.6	1,084.6	1,151.8
3	Rate 9	EGD	0.5	0.2	0.2	0.1	0.1	0.0	0.0
4	Total - EGD Rate Zone		2,233.5	2,462.9	2,775.9	2,803.2	2,418.0	2,895.7	3,084.6
5	Rate M1	Union	777.6	834.6	936.0	866.6	762.3	835.3	842.8
6	Rate M2	Union	116.5	162.0	179.3	157.5	140.2	159.0	158.8
7	Rate 01	Union	337.2	372.9	393.2	382.0	346.4	387.3	394.7
8	Rate 10	Union	70.1	77.2	77.8	74.2	67.7	74.2	72.4
9	Total - Union Rate Zone		1,301.4	1,446.7	1,586.3	1,480.3	1,316.6	1,455.8	1,468.7
10	Total General Service		3,534.9	3,909.6	4,362.2	4,283.5	3,734.6	4,351.5	4,553.3
	Contract								
11	Rate 100	EGD	0.0	0.6	0.9	0.9	0.5	0.6	0.6
12	Rate 110	EGD	24.9	32.6	33.4	38.1	44.6	59.9	51.9
13	Rate 115	EGD	7.4	7.7	7.3	9.6	7.9	14.5	12.7
14	Rate 125	EGD	10.9	11.2	11.0	9.9	11.0	11.1	11.1
15	Rate 135	EGD	1.7	2.5	3.1	4.0	3.5	6.0	3.2
16	Rate 145	EGD	7.5	8.7	8.2	5.3	3.4	4.6	4.0
17	Rate 170	EGD	7.5	14.4	15.8	16.3	12.7	14.5	11.3
18	Rate 200	EGD	23.7	29.8	31.2	33.9	28.3	29.8	30.2
19	Rate 300	EGD	0.2	0.2	0.1	0.1	0.1	0.1	0.1
20	Rate 315	EGD	0.0	0.4	0.4	0.5	0.4	0.2	0.0
21	Total - EGD Rate Zone		83.8	108.1	111.4	118.6	112.4	141.3	125.1

Revenue - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
22	Rate M4	Union	15.2	19.5	21.7	20.0	22.7	28.5	35.6
23	Rate M7	Union	4.1	6.3	16.0	15.8	14.0	15.6	17.0
24	Rate M9	Union	0.7	0.7	0.8	0.8	1.8	4.8	5.0
25	Rate M10	Union	0.0	0.1	0.1	0.1	0.1	0.1	0.1
26	Rate 20	Union	25.3	22.3	21.4	25.2	25.2	22.4	27.5
27	Rate 100	Union	15.6	15.8	15.8	12.5	12.9	10.9	10.4
28	Rate T1	Union	10.6	10.0	10.2	10.1	10.6	11.3	12.8
29	Rate T2	Union	42.2	46.6	49.3	51.1	57.5	59.5	69.0
30	Rate T3	Union	4.4	4.5	4.7	4.8	5.1	6.7	6.9
31	Rate M5	Union	15.7	17.4	10.0	7.5	7.8	6.4	3.6
32	Rate 25	Union	13.4	24.0	24.4	21.3	11.0	9.9	15.1
33	Rate 30	Union	0.0	0.1	0.1	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone		147.4	167.2	174.5	169.1	168.7	176.1	203.0
35	Total Contract		231.2	275.3	285.9	287.7	281.1	317.4	328.1
36	Subtotal		3,766.1	4,184.9	4,648.1	4,571.2	4,015.7	4,668.9	4,881.4

Revenue - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Accounting Adjustments								
37	US GAAP adj elim for deferral clearance recognition	EGD	0.0	(107.3)	(197.5)	(444.2)	(139.5)	(5.7)	(43.7)
38	Removal of Cap and Trade Revenues	EGD	0.0	0.0	0.0	0.0	0.0	(353.3)	(224.1)
39	Elim earnings sharing in the financial statements	EGD	0.0	0.0	0.0	0.0	0.0	0.0	27.2
40	Elim of 2013 OHCVA write-off per EB 2014-0195	EGD	0.0	0.0	0.4	0.0	0.0	0.0	0.0
41	Calendarization Impact	EGD	0.0	(13.7)	169.3	412.6	191.4	91.1	(121.8)
42	Average Use/ Normalized Average Consumption	Union	0.0	(11.5)	(2.6)	10.2	23.3	(2.9)	(20.3)
43	Parkway Obligation Rate Variance	Union	0.0	0.0	3.6	(0.0)	2.9	(0.2)	0.0
44	Capital Pass-through	Union	0.0	0.0	0.0	0.6	2.5	0.2	(0.4)
45	LRAM	Union	0.0	2.8	0.8	(0.9)	0.5	0.6	0.4
46	Cap and Trade Revenue	Union	0.0	0.0	0.0	0.0	0.0	227.3	144.2
47	Parkway West Capital Pass Through	Union	0.0	0.0	(1.1)	0.0	0.0	0.0	0.0
48	Community Expansion	Union	0.0	0.0	0.0	0.0	0.0	0.0	0.1
49	Bill C-97 (Accelerated CCA) Ratepayer Revenue Adjustment	Union	0.0	0.0	0.0	0.0	0.0	0.0	(1.3)
50	Bill C-97 (Accelerated CCA) 50% Shareholder Revenue Adjustment (1)	Union	0.0	0.0	0.0	0.0	0.0	0.0	(0.9)
51	Tax Variance (HST) 50% Shareholder Revenue Adjustment	Union	0.0	0.0	0.0	0.0	0.0	0.0	(0.4)
52	Total		0.0	(129.6)	(27.1)	(21.7)	81.1	(42.9)	(241.0)
53	Total Utility Revenue		3,766.1	4,055.3	4,621.0	4,549.5	4,096.8	4,626.1	4,640.4

Note:

(1) Includes revenue reduction related to 50% ratepayer portion of Bill C-97 in the Tax Variance Account and 100% of Bill C-97 CPT impact.

Revenue - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service							
1	Rate 1	EGI	1,824.8	1,646.6	1,768.3	1,972.9	2,212.3	2,206.4
2	Rate 6	EGI	1,009.2	850.9	920.1	1,056.4	1,206.6	1,190.7
3	Rate 9	EGI	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone		2,834.0	2,497.5	2,688.3	3,029.3	3,418.9	3,397.1
5	Rate M1	EGI	884.9	792.4	871.4	955.9	1,130.0	1,242.2
6	Rate M2	EGI	166.5	134.8	144.2	174.9	218.6	248.3
7	Rate 01	EGI	401.6	354.8	377.1	415.8	481.5	484.2
8	Rate 10	EGI	72.5	59.0	60.9	69.6	89.8	82.4
9	Total - Union Rate Zone		1,525.5	1,341.0	1,453.5	1,616.1	1,919.9	2,057.1
10	Total General Service		4,359.5	3,838.5	4,141.9	4,645.4	5,338.8	5,454.2
	Contract							
11	Rate 100	EGI	3.1	3.0	4.7	4.2	5.7	5.6
12	Rate 110	EGI	42.2	45.9	57.0	55.8	68.3	68.1
13	Rate 115	EGI	9.1	7.8	8.3	8.9	9.6	9.5
14	Rate 125	EGI	11.3	11.4	11.9	12.0	12.5	12.5
15	Rate 135	EGI	2.2	2.0	2.2	2.0	2.5	2.3
16	Rate 145	EGI	1.8	1.6	1.9	1.9	1.8	1.8
17	Rate 170	EGI	7.8	1.4	2.3	2.8	2.3	2.3
18	Rate 200	EGI	30.3	25.5	30.2	36.1	38.1	38.6
19	Rate 300	EGI	0.1	0.1	0.1	0.0	0.0	0.0
20	Rate 315	EGI	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone		107.8	98.7	118.6	123.6	140.7	140.6

Revenue - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
22	Rate M4	EGI	37.8	38.0	40.8	42.6	47.8	49.6
23	Rate M7	EGI	18.6	21.8	27.9	31.4	36.1	37.8
24	Rate M9	EGI	5.4	3.4	4.0	4.5	5.2	5.4
25	Rate M10	EGI	0.1	0.1	0.1	0.1	0.1	0.0
26	Rate 20	EGI	30.9	33.1	33.5	34.5	39.6	40.7
27	Rate 100	EGI	10.7	11.3	11.5	11.8	11.4	11.8
28	Rate T1	EGI	12.7	13.6	13.9	14.0	14.4	14.4
29	Rate T2	EGI	71.6	74.1	76.1	78.7	79.3	79.8
30	Rate T3	EGI	6.9	7.2	7.2	7.5	7.8	7.8
31	Rate M5	EGI	3.5	2.5	3.1	3.3	3.2	3.3
32	Rate 25	EGI	11.0	7.8	18.8	6.6	6.0	6.2
33	Rate 30	EGI	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone		208.9	212.9	236.8	234.9	250.9	256.8
35	Total Contract		316.7	311.6	355.4	358.5	391.5	397.4
36	Subtotal		4,676.2	4,150.1	4,497.3	5,004.0	5,730.3	5,851.6

Revenue - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
	Accounting Adjustments							
37	Tax Variance	EGI	(24.1)	(13.4)	(18.0)	(34.1)	(27.5)	0.0
38	Elimination of Prior Year Tax Variance	EGI	4.5	0.0	0.0	0.0	0.0	0.0
39	Accounting Policy Change	EGI	1.1	(14.0)	(16.2)	(15.5)	(33.4)	0.0
40	Average Use/ Normalized Average Consumption	EGD (1)	(8.6)	(4.6)	15.4	4.1	0.0	0.0
41	Dawn Access Cost	EGD	2.2	2.1	2.0	1.2	0.0	0.0
42	Incremental Capital Module	EGD	0.0	(0.3)	0.2	(9.4)	6.9	0.0
43	Prior Year Earnings Sharing Adjustment	EGD	(1.7)	0.0	0.0	0.0	0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD	1.7	0.0	0.0	0.0	0.0	0.0
45	Transactional Services Revenue	EGD	12.0	12.0	12.0	12.0	12.0	0.0
46	LRAM	EGD	0.0	0.0	0.0	0.0	0.0	0.0
47	Federal Carbon Program	EGD	0.1	0.6	0.7	0.0	0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD	0.2	0.2	0.1	0.0	0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD	(3.9)	(3.9)	0.0	0.0	0.0	0.0
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD	0.0	3.9	0.0	0.0	0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)	(4.7)	7.2	19.0	9.4	(6.1)	0.0
52	Parkway Obligation Rate Variance	Union	0.3	0.0	0.0	0.0	0.0	0.0
53	Incremental Capital Module	Union	(7.0)	(5.6)	(14.0)	(4.4)	1.2	0.0
54	Capital Pass-through	Union	(1.0)	(1.1)	(4.4)	(3.6)	(2.9)	0.0
55	LRAM	Union	0.4	1.4	0.7	0.4	0.4	0.0
56	Federal Carbon Program	Union	0.4	1.2	1.5	0.0	0.0	0.0

Revenue - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
57	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues	EGI	(17.4)	(17.7)	(17.2)	(16.7)	(16.4)	0.0
58	Miscellaneous	EGI	0.5	0.7	1.4	0	0	0
59	Total		(44.8)	(31.3)	(16.7)	(56.7)	(65.8)	0.0
60	Total Utility Revenue		4,631.5	4,118.8	4,480.6	4,947.2	5,664.5	5,851.6

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,785.7	39.1	1,824.8	1,618.2	28.4	1,646.6	(178.2)
2	Rate 6	818.3	190.9	1,009.2	663.4	187.5	850.9	(158.3)
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,603.9	230.1	2,834.0	2,281.6	215.9	2,497.6	(336.5)
5	Rate M1	861.8	23.0	884.9	772.5	19.9	792.4	(92.4)
6	Rate M2	127.7	38.8	166.5	99.3	35.6	134.8	(31.7)
7	Rate 01	384.1	17.5	401.6	340.3	14.5	354.8	(46.8)
8	Rate 10	48.8	23.7	72.5	37.1	21.9	58.9	(13.6)
9	Total - Union Rate Zone	1,422.4	103.1	1,525.5	1,249.1	91.9	1,341.0	(184.5)
10	Total General Service	4,026.4	333.1	4,359.5	3,530.7	307.8	3,838.5	(521.0)
	Contract							
11	Rate 100	2.7	0.4	3.1	1.8	1.2	3.0	(0.1)
12	Rate 110	5.1	37.0	42.2	9.6	36.4	45.9	3.7
13	Rate 115	0.1	9.0	9.1	0.2	7.6	7.8	(1.3)
14	Rate 125	0.0	11.3	11.3	0.0	11.4	11.4	0.1
15	Rate 135	0.3	1.9	2.2	0.4	1.6	2.0	(0.2)
16	Rate 145	0.1	1.7	1.8	0.3	1.3	1.6	(0.2)

Comparison of Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	2.2	5.5	7.8	0.6	0.7	1.4	(6.4)
18	Rate 200	28.1	2.1	30.3	23.1	2.4	25.5	(4.8)
19	Rate 300	0.0	0.1	0.1	0.0	0.1	0.1	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	38.7	69.1	107.8	36.0	62.7	98.7	(9.1)
22	Rate M4	9.9	27.9	37.8	9.9	28.1	38.0	0.2
23	Rate M7	4.5	14.1	18.6	4.7	17.1	21.8	3.2
24	Rate M9	4.4	1.0	5.4	2.5	0.9	3.4	(2.0)
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	3.4	27.5	30.9	3.1	30.0	33.1	2.2
27	Rate 100	0.0	10.7	10.7	0.0	11.3	11.3	0.6
28	Rate T1	0.0	12.7	12.7	0.0	13.6	13.6	0.9
29	Rate T2	0.0	71.6	71.6	0.0	74.1	74.1	2.5
30	Rate T3	0.0	6.9	6.9	0.0	7.2	7.2	0.3
31	Rate M5	1.1	2.4	3.5	0.4	2.1	2.5	(1.0)
32	Rate 25	8.3	2.7	11.0	5.0	2.8	7.8	(3.2)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	31.7	177.3	208.9	25.7	187.2	212.9	4.0
35	Total Contract	70.4	246.4	316.7	61.7	249.9	311.6	(5.1)
36	Subtotal	4,096.7	579.5	4,676.2	3,592.4	557.7	4,150.1	(526.1)

Comparison of Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(24.1)			(13.4)	10.7
38	Elimination of Prior Year Tax Variance	EGI		4.5			0.0	(4.5)
39	Accounting Policy Change	EGI		1.1			(14.0)	(15.1)
40	Average Use/ Normalized Average Consumption	EGD (1)		(8.6)			(4.6)	4.0
41	Dawn Access Cost	EGD		2.2			2.1	(0.1)
42	Incremental Capital Module	EGD		0.0			(0.3)	(0.3)
43	Prior Year Earnings Sharing Adjustment	EGD		(1.7)			0.0	1.7
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		1.7			0.0	(1.7)
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	(0.0)
47	Federal Carbon Program	EGD		0.1			0.6	0.5
48	Greenhouse Gas Emissions Administration	EGD		0.2			0.2	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		(3.9)			(3.9)	(0.0)
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			3.9	3.9

Comparison of Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
51	Average Use/ Normalized Average Consumption	Union (2)		(4.7)			7.2	11.9
52	Parkway Obligation Rate Variance	Union		0.3			0.0	(0.3)
53	Incremental Capital Module	Union		(7.0)			(5.6)	1.4
54	Capital Pass-through	Union		(1.0)			(1.1)	(0.1)
55	LRAM	Union		0.4			1.4	1.0
56	Federal Carbon Program	Union		0.4			1.2	0.8
57	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues	EGI		(17.4)			(17.7)	(0.3)
58	Miscellaneous	EGI		0.5			0.7	0.2
59	Total			(44.8)			(31.3)	13.5
60	Total Utility Revenue			4,631.5			4,118.8	(512.7)

Notes:
(1) EGD rate zone.
(2) Union rate zones.

Comparison of Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,618.2	28.4	1,646.6	1,749.7	18.5	1,768.3	121.6
2	Rate 6	663.4	187.5	850.9	775.8	144.3	920.1	69.2
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,281.6	215.9	2,497.6	2,525.6	162.8	2,688.3	190.8
5	Rate M1	772.5	19.9	792.4	853.1	18.3	871.4	78.9
6	Rate M2	99.3	35.6	134.8	109.2	35.0	144.2	9.4
7	Rate 01	340.3	14.5	354.8	364.3	12.8	377.1	22.3
8	Rate 10	37.1	21.9	58.9	40.9	20.0	60.9	2.0
9	Total - Union Rate Zone	1,249.1	91.9	1,341.0	1,367.5	86.1	1,453.5	112.6
10	Total General Service	3,530.7	307.8	3,838.5	3,893.0	248.9	4,141.9	303.4
	Contract							
11	Rate 100	1.8	1.2	3.0	2.9	1.8	4.7	1.7
12	Rate 110	9.6	36.4	45.9	16.6	40.4	57.0	11.1
13	Rate 115	0.2	7.6	7.8	0.2	8.1	8.3	0.5
14	Rate 125	0.0	11.4	11.4	0.0	11.9	11.9	0.5
15	Rate 135	0.4	1.6	2.0	0.6	1.6	2.2	0.2
16	Rate 145	0.3	1.3	1.6	0.0	1.9	1.9	0.3

Comparison of Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0.6	0.7	1.4	1.1	1.2	2.3	0.9
18	Rate 200	23.1	2.4	25.5	27.8	2.4	30.2	4.7
19	Rate 300	0.0	0.1	0.1	0.0	0.1	0.1	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	36.0	62.7	98.7	49.2	69.4	118.6	19.9
22	Rate M4	9.9	28.1	38.0	12.0	28.8	40.8	2.8
23	Rate M7	4.7	17.1	21.8	6.7	21.2	27.9	6.1
24	Rate M9	2.5	0.9	3.4	3.0	1.0	4.0	0.6
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	3.1	30.0	33.1	2.9	30.6	33.5	0.4
27	Rate 100	0.0	11.3	11.3	0.0	11.5	11.5	0.2
28	Rate T1	0.0	13.6	13.6	0.0	13.9	13.9	0.3
29	Rate T2	0.0	74.1	74.1	0.0	76.1	76.1	1.9
30	Rate T3	0.0	7.2	7.2	0.0	7.2	7.2	0.0
31	Rate M5	0.4	2.1	2.5	0.8	2.3	3.1	0.6
32	Rate 25	5.0	2.8	7.8	15.6	3.1	18.8	11.0
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	25.7	187.2	212.9	41.1	195.7	236.8	23.9
35	Total Contract	61.7	249.9	311.6	90.3	265.1	355.4	43.8
36	Subtotal	3,592.4	557.7	4,150.1	3,983.3	514.0	4,497.3	347.2

Comparison of Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(13.4)			(18.0)	(4.6)
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(14.0)			(16.2)	(2.2)
40	Average Use/ Normalized Average Consumption	EGD (1)		(4.6)			15.4	20.0
41	Dawn Access Cost	EGD		2.1			2.0	(0.1)
42	Incremental Capital Module	EGD		(0.3)			0.2	0.5
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.6			0.7	0.1
48	Greenhouse Gas Emissions Administration	EGD		0.2			0.1	(0.1)
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		(3.9)			0.0	3.9
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		3.9			0.0	(3.9)

Comparison of Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
51	Average Use/ Normalized Average Consumption	Union (2)		7.2			19.0	11.8
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(5.6)			(14.0)	(8.4)
54	Capital Pass-through	Union		(1.1)			(4.4)	(3.3)
55	LRAM	Union		1.4			0.7	(0.7)
56	Federal Carbon Program	Union		1.2			1.5	0.3
57	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues	EGI		(17.7)			(17.2)	0.5
58	Miscellaneous	EGI		0.7			1.4	0.7
59	Total			(31.3)			(16.7)	14.6
60	Total Utility Revenue			4,118.8			4,480.6	361.8

Notes:
(1) EGD rate zone.
(2) Union rate zones.

Comparison of Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,749.7	18.5	1,768.3	1,944.1	28.8	1,972.9	204.6
2	Rate 6	775.8	144.3	920.1	898.0	158.4	1,056.4	136.3
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
4	Total - EGD Rate Zone	2,525.6	162.8	2,688.3	2,842.1	187.1	3,029.3	341.0
5	Rate M1	853.1	18.3	871.4	935.8	20.1	955.9	84.6
6	Rate M2	109.2	35.0	144.2	132.9	42.0	174.9	30.7
7	Rate 01	364.3	12.8	377.1	400.1	15.7	415.8	38.7
8	Rate 10	40.9	20.0	60.9	44.1	25.5	69.6	8.7
9	Total - Union Rate Zone	1,367.5	86.1	1,453.5	1,512.8	103.3	1,616.1	162.6
10	Total General Service	3,893.0	248.9	4,141.9	4,355.0	290.5	4,645.4	503.6
	Contract							
11	Rate 100	2.9	1.8	4.7	2.7	1.5	4.2	(0.5)
12	Rate 110	16.6	40.4	57.0	15.3	40.5	55.8	(1.2)
13	Rate 115	0.2	8.1	8.3	0.1	8.8	8.9	0.6
14	Rate 125	0.0	11.9	11.9	0.0	12.0	12.0	0.1
15	Rate 135	0.6	1.6	2.2	0.4	1.6	2.0	(0.2)
16	Rate 145	0.0	1.9	1.9	0.1	1.8	1.9	0.0

Comparison of Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1.1	1.2	2.3	0.1	2.6	2.8	0.5
18	Rate 200	27.8	2.4	30.2	34.3	1.7	36.1	5.9
19	Rate 300	0.0	0.1	0.1	0.0	0.0	0.0	(0.1)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	49.2	69.4	118.6	53.1	70.5	123.6	5.0
22	Rate M4	12.0	28.8	40.8	12.8	29.7	42.6	1.7
23	Rate M7	6.7	21.2	27.9	7.6	23.8	31.4	3.5
24	Rate M9	3.0	1.0	4.0	3.3	1.2	4.5	0.5
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	(0.0)
26	Rate 20	2.9	30.6	33.5	2.7	31.8	34.5	1.0
27	Rate 100	0.0	11.5	11.5	0.0	11.8	11.8	0.3
28	Rate T1	0.0	13.9	13.9	0.0	14.0	14.0	0.1
29	Rate T2	0.0	76.1	76.1	0.0	78.7	78.7	2.6
30	Rate T3	0.0	7.2	7.2	0.0	7.5	7.5	0.3
31	Rate M5	0.8	2.3	3.1	0.9	2.4	3.3	0.2
32	Rate 25	15.6	3.1	18.8	2.5	4.1	6.6	(12.2)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	41.1	195.7	236.8	29.9	205.0	234.9	(1.9)
35	Total Contract	90.3	265.1	355.4	83.0	275.5	358.5	3.1
36	Subtotal	3,983.3	514.0	4,497.3	4,438.0	566.0	5,004.0	506.7

Comparison of Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(18.0)			(34.1)	(16.1)
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(16.2)			(15.5)	0.7
40	Average Use/ Normalized Average Consumption	EGD (1)		15.4			4.1	(11.3)
41	Dawn Access Cost	EGD		2.0			1.2	(0.8)
42	Incremental Capital Module	EGD		0.2			(9.4)	(9.6)
43	Prior Year Earnings Sharing Adjustment	EGD		0.0				0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.7			0.0	(0.7)
48	Greenhouse Gas Emissions Administration	EGD		0.1			0.0	(0.1)
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			0.0	0.0

Comparison of Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
51	Average Use/ Normalized Average Consumption	Union (2)		19.0			9.4	(9.7)
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(14.0)			(4.4)	9.5
54	Capital Pass-through	Union		(4.4)			(3.6)	0.8
55	LRAM	Union		0.7			0.4	(0.3)
56	Federal Carbon Program	Union		1.5			0.0	(1.5)
57	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues	EGI		(17.2)			(16.7)	0.4
58	Miscellaneous	EGI		1.4			0.0	(1.4)
59	Total			(16.7)			(56.7)	(40.0)
60	Total Utility Revenue			4,480.6			4,947.2	466.7

Notes:
(1) EGD rate zone.
(2) Union rate zones.

Comparison of Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,944.1	28.8	1,972.9	2,193.3	19.1	2,212.3	239.4
2	Rate 6	898.0	158.4	1,056.4	1,043.3	163.3	1,206.6	150.2
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,842.1	187.1	3,029.3	3,236.6	182.4	3,418.9	389.6
5	Rate M1	935.8	20.1	955.9	1,109.5	20.5	1,130.0	174.1
6	Rate M2	132.9	42.0	174.9	173.9	44.7	218.6	43.7
7	Rate 01	400.1	15.7	415.8	467.5	14.0	481.5	65.7
8	Rate 10	44.1	25.5	69.6	65.9	23.9	89.8	20.2
9	Total - Union Rate Zone	1,512.8	103.3	1,616.1	1,816.8	103.1	1,919.9	303.7
10	Total General Service	4,355.0	290.5	4,645.4	5,053.4	285.4	5,338.8	693.4
	Contract							
11	Rate 100	2.7	1.5	4.2	4.3	1.4	5.7	1.5
12	Rate 110	15.3	40.5	55.8	26.4	41.9	68.3	12.5
13	Rate 115	0.1	8.8	8.9	0.4	9.1	9.6	0.6
14	Rate 125	0.0	12.0	12.0	0.0	12.5	12.5	0.5
15	Rate 135	0.4	1.6	2.0	1.2	1.3	2.5	0.4
16	Rate 145	0.1	1.8	1.9	0.2	1.6	1.8	(0.1)

Comparison of Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0.1	2.6	2.8	1.2	1.1	2.3	(0.5)
18	Rate 200	34.3	1.7	36.1	36.5	1.7	38.1	2.1
19	Rate 300	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
21	Total - EGD Rate Zone	53.1	70.5	123.6	70.1	70.5	140.7	17.0
22	Rate M4	12.8	29.7	42.6	16.7	31.1	47.8	5.3
23	Rate M7	7.6	23.8	31.4	10.5	25.6	36.1	4.7
24	Rate M9	3.3	1.2	4.5	3.9	1.3	5.2	0.7
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	2.7	31.8	34.5	4.9	34.7	39.6	5.0
27	Rate 100	0.0	11.8	11.8	0.0	11.4	11.4	(0.4)
28	Rate T1	0.0	14.0	14.0	0.0	14.4	14.4	0.4
29	Rate T2	0.0	78.7	78.7	0.0	79.3	79.3	0.6
30	Rate T3	0.0	7.5	7.5	0.0	7.8	7.8	0.3
31	Rate M5	0.9	2.4	3.3	0.7	2.5	3.2	(0.1)
32	Rate 25	2.5	4.1	6.6	2.0	4.1	6.0	(0.5)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	29.9	205.0	234.9	38.7	212.2	250.9	16.0
35	Total Contract	83.0	275.5	358.5	108.8	282.7	391.5	33.0
36	Subtotal	4,438.0	566.0	5,004.0	5,162.2	568.1	5,730.3	726.4

Comparison of Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(34.1)			(27.5)	6.6
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(15.5)			(33.4)	(17.9)
40	Average Use/ Normalized Average Consumption	EGD (1)		4.1			0.0	(4.1)
41	Dawn Access Cost	EGD		1.2			0.0	(1.2)
42	Incremental Capital Module	EGD		(9.4)			6.9	16.4
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.0			0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD		0.0			0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			0.0	0.0

Comparison of Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
51	Average Use/ Normalized Average Consumption	Union (2)		9.4			(6.1)	(15.5)
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(4.4)			1.2	5.6
54	Capital Pass-through	Union		(3.6)			(2.9)	0.7
55	LRAM	Union		0.4			0.4	0.0
56	Federal Carbon Program	Union		0.0			0.0	(0.0)
57	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues	EGI		(16.7)			(16.4)	0.3
58	Miscellaneous	EGI		0.0			0.0	0.0
59	Total			(56.7)			(65.8)	(9.1)
60	Total Utility Revenue			4,947.2			5,664.5	717.3

Notes:
(1) EGD rate zone.
(2) Union rate zones.

Comparison of Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,193.3	19.1	2,212.3	2,189.2	17.1	2,206.4	(5.9)
2	Rate 6	1,043.3	163.3	1,206.6	1,029.6	161.1	1,190.7	(15.9)
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	3,236.6	182.4	3,418.9	3,218.9	178.2	3,397.1	(21.8)
5	Rate M1	1,109.5	20.5	1,130.0	1,221.6	20.6	1,242.2	112.2
6	Rate M2	173.9	44.7	218.6	203.4	44.8	248.3	29.7
7	Rate 01	467.5	14.0	481.5	470.6	13.6	484.2	2.7
8	Rate 10	65.9	23.9	89.8	59.2	23.2	82.4	(7.4)
9	Total - Union Rate Zone	1,816.8	103.1	1,919.9	1,954.8	102.3	2,057.1	137.2
10	Total General Service	5,053.4	285.4	5,338.8	5,173.7	280.5	5,454.2	115.4
	Contract							
11	Rate 100	4.3	1.4	5.7	4.2	1.4	5.6	(0.1)
12	Rate 110	26.4	41.9	68.3	26.3	41.7	68.1	(0.3)
13	Rate 115	0.4	9.1	9.6	0.4	9.1	9.5	(0.1)
14	Rate 125	0.0	12.5	12.5	0.0	12.5	12.5	0.0
15	Rate 135	1.2	1.3	2.5	1.1	1.3	2.3	(0.2)
16	Rate 145	0.2	1.6	1.8	0.2	1.6	1.8	0.0

Comparison of Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1.2	1.1	2.3	1.2	1.1	2.3	(0.0)
18	Rate 200	36.5	1.7	38.1	36.9	1.7	38.6	0.5
19	Rate 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	70.1	70.5	140.7	70.3	70.3	140.6	(0.1)
22	Rate M4	16.7	31.1	47.8	17.7	31.9	49.6	1.8
23	Rate M7	10.5	25.6	36.1	9.9	27.8	37.8	1.7
24	Rate M9	3.9	1.3	5.2	4.2	1.3	5.4	0.3
25	Rate M10	0.1	0.0	0.1	0.0	0.0	0.0	(0.1)
26	Rate 20	4.9	34.7	39.6	5.4	35.2	40.7	1.1
27	Rate 100	0.0	11.4	11.4	0.0	11.8	11.8	0.4
28	Rate T1	0.0	14.4	14.4	0.0	14.4	14.4	0.0
29	Rate T2	0.0	79.3	79.3	0.0	79.8	79.8	0.5
30	Rate T3	0.0	7.8	7.8	0.0	7.8	7.8	0.0
31	Rate M5	0.7	2.5	3.2	0.8	2.5	3.3	0.1
32	Rate 25	2.0	4.1	6.0	1.6	4.6	6.2	0.2
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	38.7	212.2	250.9	39.6	217.2	256.8	6.0
35	Total Contract	108.8	282.7	391.5	109.8	287.6	397.4	5.9
36	Subtotal	5,162.2	568.1	5,730.3	5,283.5	568.1	5,851.6	121.3

Comparison of Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(27.5)			0.0	27.5
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(33.4)			0.0	33.4
40	Average Use/ Normalized Average Consumption	EGD (1)		0.0			0.0	0.0
41	Dawn Access Cost	EGD		0.0			0.0	0.0
42	Incremental Capital Module	EGD		6.9			0.0	(6.9)
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			0.0	(12.0)
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.0			0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD		0.0			0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			0.0	0.0

Comparison of Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
51	Average Use/ Normalized Average Consumption	Union (2)		(6.1)			0.0	6.1
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		1.2			0.0	(1.2)
54	Capital Pass-through	Union		(2.9)			0.0	2.9
55	LRAM	Union		0.4			0.0	(0.4)
56	Federal Carbon Program	Union		0.0			0.0	0.0
57	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues	EGI		(16.4)			0.0	16.4
58	Miscellaneous	EGI		0.0			0.0	0.0
59	Total			(65.8)			0.0	65.8
60	Total Utility Revenue			5,664.5			5,851.6	187.1

Notes:
(1) EGD rate zone.
(2) Union rate zones.

Revenue - Delivery and Gas Supply Related Split for 2024 Test Year

Line No.	Particulars ($ millions)	Utility	2024 Delivery (a)	2024 Gas Supply (b)	2024 Test Year (c) = (a+b)
	General Service				
1	Rate 1	EGI	1,034.2	1,172.2	2,206.4
2	Rate 6	EGI	448.6	742.1	1,190.7
3	Rate 9	EGI	0.0	0.0	0.0
4	Total - EGD Rate Zone		1,482.8	1,914.3	3,397.1
5	Rate M1	EGI	548.7	693.5	1,242.2
6	Rate M2	EGI	92.4	155.9	248.3
7	Rate 01	EGI	226.5	257.7	484.2
8	Rate 10	EGI	30.6	51.8	82.4
9	Total - Union Rate Zone		898.2	1,158.9	2,057.1
10	Total General Service		2,381.0	3,073.2	5,454.2
	Contract				
11	Rate 100	EGI	2.1	3.5	5.6
12	Rate 110	EGI	36.7	31.3	68.1
13	Rate 115	EGI	6.9	2.5	9.5
14	Rate 125	EGI	12.5	0.0	12.5
15	Rate 135	EGI	1.5	0.9	2.3
16	Rate 145	EGI	1.6	0.2	1.8
17	Rate 170	EGI	3.2	(1.0)	2.3
18	Rate 200	EGI	5.2	33.4	38.6
19	Rate 300	EGI	0.0	0.0	0.0
20	Rate 315	EGI	0.0	0.0	0.0
21	Total - EGD Rate Zone		69.7	70.9	140.6

Revenue - Delivery and Gas Supply Related Split for 2024 Test Year

Line No.	Particulars ($ millions)	Utility	2024 Delivery (a)	2024 Gas Supply (b)	2024 Test Year (c) = (a+b)
22	Rate M4	EGI	34.9	14.7	49.6
23	Rate M7	EGI	28.0	9.8	37.8
24	Rate M9	EGI	1.8	3.7	5.4
25	Rate M10	EGI	0.0	0.0	0.0
26	Rate 20	EGI	30.8	9.8	40.7
27	Rate 100	EGI	11.8	0.0	11.8
28	Rate T1	EGI	14.3	0.1	14.4
29	Rate T2	EGI	79.2	0.6	79.8
30	Rate T3	EGI	7.8	0.0	7.8
31	Rate M5	EGI	2.7	0.6	3.3
32	Rate 25	EGI	4.9	1.3	6.2
33	Rate 30	EGI	0.0	0.0	0.0
34	Total - Union Rate Zone		216.2	40.6	256.8
35	Total Contract		285.9	111.5	397.4
36	Total Utility Revenue		2,666.9	3,184.7	5,851.6

Guidehouse

Natural Gas Volume Forecasting Benchmarking Study

A Comparative Review

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1. Introduction

Guidehouse Canada Ltd. ("Guidehouse") was engaged by Enbridge Gas Inc. ("EGI") to complete a natural gas volume forecast approach comparative review study. This report outlines Guidehouse's understanding of how comparable utility organizations forecast their natural gas volumes, based on publicly available literature and interviews.

The analysis in this report is a result of three processes carried out by Guidehouse:

- **Current state assessment of EGI's methodology.** Involving a thorough review of available documentation related to EGI's volume forecasting methodologies, as well as interviews with EGI staff. EGI operates in the following service areas: EGD rate zone, and the Union North and Union South rate zones (collectively the Union rate zone). The EGD and Union rate zone methodologies were assessed in this study.
- **Comparator Literature Review.** Involving a thorough review of public information available from a targeted list of 10 comparators regarding their volume forecasting methodologies. The 10 comparators were selected based on their comparability to EGI and the availability of information, as described further in the next section.
- **Comparator Interviews**. Interviews were conducted with the 7 comparators that agreed to be interviewed of the 10 assessed in the literature review. These interviews were designed to validate findings, fill in gaps from the literature review and ensure a complete understanding of the volume forecasting approach. Results are presented anonymously in this document.

This study compares EGI's Ontario Energy Board ("OEB")-approved gas volume forecast methods to that of comparable utilities in North America. The findings of this report are organized into the following subsections, which summarize the key areas of volume forecasting, typical of and necessary to conduct an effective customer and market volume forecast:

- Heating Degree Day Forecasting
- Weather Normalization
- General Service Customer Count (Unlocks) Forecast
- General Service Average Use per Customer Forecast
- General Service Volume Forecast
- Contract Market Volume Forecast
- Revenue Stability & Deferral Accounts

2. Comparators Selection Methodology

Guidehouse targeted 10 comparators by applying a four-tiered prioritization analysis to a group of 59 natural gas utilities in North America. Guidehouse created this list by including the top 50 US natural gas distributors in the U.S. by sales[1] and supplementing the list with nine additional natural gas distributors located in Canada[2].

The four-tiered analysis evaluated and compared various utility characteristics to EGI. The tiers were applied to the list of utilities in phases. First, Tier 1 was applied, and if a utility passed Tier 1 then the Tier 2 and Tier 3 filtering criteria were applied. If utilities passed both Tier 2 and Tier 3, then the Tier 4 filtering criteria was applied. Tier 1 filtering was a binary pass or fail criteria, whereas Tier 2 and Tier 3 criteria were given weightings based on how important Guidehouse believes the criteria to be in comparing utilities to EGI in the context of volume forecasting. The first three tiers of filtering are summarized in Table 2-1 below[3].

Table 2-1. Tier 1 to Tier 3 Comparator Filtering Analysis

Tier	Weight	Criterion	Strong = 3	Moderate = 2	Weak = 1	Illustrative Example for Strong = 3
Tier 1	N/A	Climate Zones	One of utility territory climate zone(s) are zone 6 or greater*.	N/A	All of utility territory climate zone(s) are zone 5 or less.	Utility territory spans climate zones 5, 6 and 7.
Tier 2	1	Type of Customers (residential % of total)	Utility percent of residential customers is within 15% of Enbridge Gas'.	Utility percent of residential customers is within 15% to 50% of Enbridge Gas'.	Utility percent of residential customers is outside of 50% of Enbridge Gas'.	Utility percent of residential customers is within 15% of Enbridge Gas'.
Tier 2	1	Type of Heating Used by Customers	Utility percent of population that uses forced air furnace heating is within 15% of Enbridge Gas'.	Utility percent of population that uses forced air furnace heating is within 15% to 50% of Enbridge Gas'.	Utility percent of population that uses forced air furnace heating is outside of 50% of Enbridge Gas'.	Utility percent of population that uses forced air furnace heating is within 15% of Enbridge Gas'.
Tier 3	0.5	Number of Customers	Utility number of customers is within 25% of Enbridge Gas'.	Utility number of customers is within 25% to 75% of Enbridge Gas'.	Utility number of customers is outside of 75% of Enbridge Gas'.	Utility number of customers is within 25% of Enbridge Gas'.
Tier 3	0.5	Revenue	Utility revenue is within 15% of Enbridge Gas'.	Utility revenue is within 15% to 50% of Enbridge Gas'.	Utility revenue is outside of 50% of Enbridge Gas'.	Utility revenue is within 15% ($680 million) of Enbridge Gas'.
Tier 3	0.5	Total Volumes	Utility total volume is within 15% of Enbridge Gas'.	Utility total volume is within 15% to 50% of Enbridge Gas'.	Utility total volume is outside of 50% of Enbridge Gas'.	Utility total volume is within 15% (42 Bcf) of Enbridge Gas'.

**The exceptions to this are utilities that service the cities of Boston and Chicago. Though they are both in climate zone 5, Guidehouse believes the cities to be comparable to Toronto.*

[1] 2019 Ranking of Companies by Total Sales Customers. AGA Statistics Database. **https://www.aga.org/contentassets/d68b868b7cd94ed2889b704b441ab469/1002totcust.pdf**

[2] The Canadian natural gas distributors included: ATCO, Altagas, EPCOR, Fortis BC Energy Inc., Manitoba Hydro, Heritage Gas, Energir, Emera Energy and SaskEnergy.

[3] Tier 4 was a qualitative analysis versus Tier 1 to Tier 3 which were either binary or quantitative analyses; therefore, it was not included in Table 2-1, but is explained in detail later in this section.

Tier 1 filtering was completed based on the climate zones that each utility service territory spanned.[4] EGI spans climate zones 5 to 8, with most of its service territory covering climate zone 6 or higher. Therefore, Guidehouse concluded that any utility whose service territory spanned climate zone 6 or higher would pass Tier 1. The exceptions to this rule were utilities that serviced the cities of Boston and Chicago[5], because both cities are in climate zone 5, and have similar weather patterns to the city of Toronto.

Tier 2 and 3 filtering was done simultaneously and included weightings in order to generate a quantitative approach for determining the most comparable utilities to EGI. Guidehouse used metrics to filter the comparators to 23 utilities. These tiers are summarized below:

- Tier 2 – Type of Customers, i.e., residential, commercial, and industrial. Data was sourced from the U.S. Energy Information Administration (EIA)[6] for the US utilities and regulatory filings for the Canadian utilities. The assumption is that utilities with a similar percentage of residential customers to EGI would be the most comparable.
- Tier 2 – Type of heating used by customers Guidehouse used U.S.[7] and Canadian[8] census data. The Canadian census data was segmented by province and provided the percent of residents that use forced-air furnace heating. The assumption is that utilities with a similar percent of forced air heating to EGI would be the most comparable.
- Tier 3 - Number of customers, revenue, and volume data was collected for each comparator from the American Gas Association (AGA)[9] for the US utilities and annual reports and regulatory filings for the Canadian utilities. Utilities that were closer in these metrics to EGI were considered more comparable and assigned a higher weighting.

Tier 4 filtering involved assessing the availability of regulatory documents for the 23 utilities that passed the Tier 1 - 3 filtering. These were further filtered down based on the Tier 4 process which involved collecting relevant regulatory documents that could be used to assess the comparators' forecasting methodologies. At the end of Tier 4, 10 utilities were selected for a thorough literature review based on their availability of relevant public information. Seven of these utilities agreed to be interviewed in order to fill in gaps in public documentation and ask further questions.

The principal criterion that drove the selection of a utility into the final group of 10 described below was the availability of reasonably recent detailed documentation of forecast methods. Although Guidehouse planned on interviewing as many as possible of the 10 selected utilities, the Guidehouse team recognized that not all utility staff might consent to an interview, and that the time such staff were likely to be able to share would be sufficient only to confirm or clarify details with which Guidehouse was already familiar from its literature review. This meant that the availability of forecast documentation was crucial and drove the final filtering process.

[4] Based on ASHRAE climate zones.

[5] These utilities were Ameren Illinois, Peoples Gas Light and Coke Company, and Boston Gas Company d/b/a National Grid.

[6] Number of Natural Gas Consumers, U.S. Energy Information Administration.
https://www.eia.gov/dnav/ng/ng_cons_num_a_EPG0_VN7_Count_a.htm

[7] U.S. Census Bureau. Characteristics of New Housing. Historical Data. 2003-2017.
https://www.census.gov/construction/chars/historical_data/

[8] Statistics Canada. Primary Heating Systems and Type of Energy. 2017.
https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=3810028601

[9] 2019 Ranking of Companies by Total Sales Customers. AGA Statistics Database.
https://www.aga.org/contentassets/d68b868b7cd94ed2889b704b441ab469/1002totcust.pdf

Resulting Targeted Comparator Group
The 10 comparators targeted for the study, based on the prioritization assessment, included the following (listed in alphabetical order):

- Ameren Illinois Company
- Boston Gas Company (National Grid)
- CenterPoint Minnesota
- Consolidated Edison Company of NY, Inc.
- DTE Gas Company
- Fortis BC Energy Inc.
- Niagara Mohawk Power Corporation (National Grid)
- National Fuel Gas Distribution Corporation
- Public Service Electric and Gas Company
- Wisconsin Power and Light Co.

Although these comparators are identified above, the benchmarking report below has anonymized them when reporting on specific elements of the forecasts, referring to them as Utility A, Utility B, etc. This is a result of the needs of the interview process. Interviewees were provided with anonymity to motivate participation in the process and to avoid imposing any onerous administrative or legal hurdles to participation. As interview anonymity can be provided effectively in this case only through complete anonymization of utilities reviewed, no utility in the report below is referred to by its name.

This is consistent with the approach used by others for similar benchmarking reports, for example a 2020 benchmarking report developed for FortisBC Energy Inc.[10]

[10] Energitix, presented to FortisBC Energy Inc. *Long Term Demand Forecasting Benchmarking Study on End-Use Methods Industry Practices Review*, November 2020

3. Gas Volume Forecasting Benchmarking

This section summarizes the results of Guidehouse's assessment of EGI's forecasting methodologies, and the literature review and interviews with comparator utility companies. Results are organized by the major functional areas required for gas volume forecasting and are anonymized.

3.1 Heating Degree Day Forecasting

Most utilities maintain a forecast of heating degree days ("HDD"). The forecast of HDD may then be used to develop the volumetric forecast.. The definition of a HDD can vary, but daily HDD are conventionally defined as the higher of: 18 degrees Celsius minus the average observed dry bulb temperature, or zero. Variations on this convention include using different balance point temperatures (e.g., subtracting observed temperature from 16 instead of 18 degrees Celsius) or adjusting the definition of the day (instead of comparing the average temperature observed between midnight of one day and the next, average observed temperature between 10am on one day and the next might be used). Seasonal, monthly, or annual HDD are the sum of the daily HDD over the relevant period.

Both the EGD and Union rate zones use a forecast of HDD in their volume forecasting. The HDD forecast is also used to normalize historical (actual) average use to calculate the variances captured by the Average Use True-up Variance Account (AUTUVA) (in the EGD rate zone) and the Normalized Average Consumption (NAC) (in the Union rate zone) deferral accounts.

Both the EGD and Union rate zones use a combination of regression and moving averages as approaches to forecast HDD. The EGD rate zone approach includes an evaluation framework that compares the performance of ten different HDD forecasting approaches and selects the best forecast approach for each of the EGD rate zones' weather zones based on that framework.

Table 3-1. EGI Weather Variables

Modelling Category	EGD rate zone	Union rate zone
Temperature Forecast Approach	HDD forecast methodology varies by weather zone, either using regression, moving averages or some combination of the two. Currently, a 50/50 Hybrid (average of 20-year trend and 10-year average) is used for the Central weather zone, De Bever with trend for the Eastern weather zone, and 10-year moving average for the Niagara weather zone. HDD forecasts are produced for the first year of a forecast period and held constant for each year thereafter.	HDD forecast is developed using a 50/50 method (average of the 20-year trend and 30-year average) for both zones (South & North). HDD forecasts are produced for the first year of a forecast period and held constant for each year thereafter.
Temperature Metric	HDD	HDD

Nine out of the 10 comparator utilities use HDDs or effective degree days[11] (EDD) as a fundamental pillar of their forecasting methodology. The sophistication and granularity of the approaches vary considerably: some utilities simply use a rolling multi-year annual average, one uses an intercept-and-trend regression to project annual values, and others develop daily projections of HDD. The EGD and Union rate zones' use and projections of forecast HDDs are in line with the approaches used by the comparators and may be considered standard industry practice. The EGD rate zone uses sample periods of 10 and 20 years while the Union rate zone uses sample periods of 20 and 30 years. The sample periods (or time series) used to produce the HDD forecasts for EGI's rate zones is consistent with the ranges of historical data used by the comparable utilities as summarized in Table 3-2. Some of the comparator utilities have selected the approach in use on the basis of forecasting accuracy testing and some on the basis of how the different approaches or metrics affect use-per-customer estimates and models. Many appear to do no testing or comparison of competing approaches.

[11] Effective degree days (EDD) are a variation of the HDD used by one of the comparator utilities that includes an adjustment for observed windspeed.

Table 3-2. Comparator Weather Variables

Utility	Temperature Forecast / Normal Weather Approach	Forecast / Normal Weather Approach Testing	Temperature Metric
Utility A	10-year average of monthly HDD	Comparison of RMSEs of 1 to 30-year moving averages of monthly HDD using historical data.	HDD
Utility B	TMY[12] 20 years of daily EDD based selecting historical month of daily data with most similar mean to 20-year monthly average.	Comparison of regression model performance with alternative weather variables.	EDD, HDD adjusted for windspeed
Utility C	65-year hinge fit of average annual HDD - mean plus declining trend starting mid-sample to account for warming	Repeated out-of-sample comparisons with 10-year, 15-year, and 20-year average value predictions.	HDD
Utility D	30-year average of annual HDD	None	HDD
Utility E	15-year average of monthly HDDs, stochastically distributed by day within each month	Predictive performance of volume forecast compared using simple daily average HDD compared to stochastic daily distributed HDD	HDD
Utility F	30-year normal HDD forecast published by NOAA	None	HDD
Utility G	20-year average of daily HDD	None	HDD
Utility H	20-year average of daily HDD smoothed and aggregated to a monthly series	None specified	HDD
Utility I	No weather forecast used[13]	None	Dry bulb temperature
Utility J	30-year average of monthly HDD	None	HDD

3.2 Weather Normalization

Weather normalization in this section refers to the adjustment process applied to historical observed volumes to control for (and remove) weather-driven volatility. Normalization is typically accomplished through the use of some estimated relationship (or set of relationships) between volumes and weather applied both to observed weather and to “normal” weather. Normalization is helpful in comparing observed historical volumes to forecast volumes (which typically are forecast on the assumption of “normal” weather or HDD) on a consistent basis and to better understand long-term trends in volumes that might otherwise be obscured by year-over-year weather volatility. As explained in Section 3.1, both EGD and Union rate zones use normalization for the determination of

[12] Typical Meteorological Year

[13] Volumes are forecast as a function of weather-normalized loads. It appears as though the utility uses 10 years of history with monthly frequency to estimate the regression that delivers the weather normalizing parameters. The implicit assumption is therefore that forecast normal weather will reflect a 10-year average of temperature by month of year

weather normalized actual and forecast average use. Beyond normalization of average use, EGI's normalization is used for financial reporting to adjust volumes and revenues to align with forecast weather.

For both EGD and Union rate zones, the weather normalization adjusts monthly consumption to reflect forecast, rather than actual, weather conditions. Weather normalization adjustment applies to the weather sensitive months, typically non-summer months.

EGD rate zone weather normalization is done via a disaggregation method. This involves observing the ratio of heat load to baseload consumption in historical data trends and applying the ratio to the HDD forecast. Union rate zone weather normalization is done by using weather elasticities derived from its regression models. The elasticities are multiplied by the percentage difference between observed and previously forecast (for the observed period in question) HDD to estimate the percentage impact of observed weather on volumes.

Table 3-3. EGI Weather Normalization

Modelling Category	EGD rate zone	Union rate zone
Weather Normalization Approach	Historical normalized average consumption used as the starting point for forecast growth is estimated by splitting observed average use per customer into heat load and baseload. Heat load is normalized by multiplying the ratio of heat load consumption to observed HDD by the forecast/budget HDD.	Total observed/historical consumption is adjusted by multiplying the percentage HDD variance from forecast with weather elasticity factors from regression equations to predict what actual/observed consumption volumes would have been given forecast HDD. Weather elasticity is estimated by comparing predicted consumption using forecast HDD with predicted consumption using forecast HDD scaled up 10%.

The HDD metric is known to be used by eight of the comparators based on the information available. Of the eight comparators for which the details of the weather normalization approach were available, three use a method that disaggregates historical consumption into baseload and heat load data (similar to the EGD rate zone approach). Of the remaining comparators, five use a regression method similar to the Union rate zone approach (i.e., using regression-estimated weather sensitivity parameters). The EGD and Union rate zones' methodologies are not atypical of the methods used among comparators and can be considered standard industry practice.

Table 3-4. Comparator Weather Normalization

Utility	Weather Normalization Approach
Utility A	Details of historic weather adjustment to observed volumes unavailable, but adjustment applied only residential and small/intermediate general service customer classes. No weather adjustment applied to large general service, seasonal, or special contract gas volumes.
Utility B	The utility estimates linear seasonal (peak - Nov-Mar - and off-peak - Apr-Oct) regression of use on billing degree days. Estimated parameters, observed, and normal/forecast EDD are used to normalize historic series.
Utility C	The utility estimates a non-linear monthly regression (by class) of sales on billing cycle-adjusted monthly average temperatures. Estimated parameters, observed, and normal/forecast HDD used to normalize historic series.
Utility D	Historic volumes are weather-normalized by applying a "use per heating degree-day per bill factor" to the difference between observed and normal degree days. This factor is estimated for each service classification by regressing monthly billed volumes per customer per billing day on monthly billing cycle heating degree days per billing day.
Utility E	Historic year volume is divided into baseload and heat-sensitive components. A heat load factor for the historic year is estimated by dividing heat-sensitive volume by observed HDD. Normal heat-sensitive volume for that year is estimated by multiplying that heat load factor by projected normal annual HDD.
Utility F	Actual monthly volumes are weather normalized dividing monthly by subtracting average baseload month volume (average volume across the two consecutive months with lowest volume) from the given month's volume, dividing by the number of observed HDD, multiplying by the NOAA forecast normal HDD, and adding back baseload.
Utility G	Undetermined in literature review
Utility H	Historic average use is weather normalized by applying the estimated HDD parameters from the average use regression to the difference between observed and normal weather HDD.
Utility I	Average use is weather normalized by dividing observed average use by a normalization factor estimated by region, rate schedule, and month. The normalization factor is estimated using one of three different non-linear regression approaches, with the factor drawn from the approach that delivers the best model fit.
Utility J	The utility estimates linear seasonal (peak - Nov-Mar - and off-peak - Apr-Oct) regression of average use on billing degree days. Estimated parameters, observed, and normal/forecast HDD used to normalize historic series.

3.3 General Service Customer Count (Unlocks) Forecast

This section provides a summary of the approach used by the comparator utilities to forecast customer counts (unlocks). “General service” refers to all of EGI’s non-contract market gas customers.

EGI produces the EGD rate zone and Union rate zone forecast general service customer counts (unlocks) via forecast net changes to existing customer counts. These forecasts incorporate information on attachments/additions, conversions, and attrition/locks. The specifics of the approaches used (identified in the table below) differ across the two rate zones, but both forecast the customer attachments/additions using projected housing starts and applying adjustments to account for lags in unlocks.

Assessments of provincial housing starts forecast and adjustments applied to reflect regional market share are based on historical trends. Estimates are reviewed by EGI's sales and operational managers/representatives and adjusted if deemed appropriate. Residential new customer attachments/additions are forecast as a function of housing starts[14], and both rate zones apply adjustments to this projection to account for customer attrition/locks.

» **Table 3-5. EGI General Service Customer Forecast**

Modelling Category	EGD rate zone	Union rate zone
Customer Count (Unlocks) Forecast Approach	Forecast customer counts (unlocks) are the sum of existing customer counts and net new customers (customer additions that are adjusted for the customer attrition/locks). Residential customer additions are forecast as a function of housing starts (regression analysis). Non-residential customer additions are forecast via a trend of the previous years. Forecast customer counts (unlocks) are estimated by adjusting existing customer counts to reflect forecast new attrition/locks, and the forecast lags in unlocks.	Forecast customer counts (unlocks) are the sum of existing customer counts and net new customers (customer additions that are adjusted for the customer attrition). Residential customer attachments/additions are forecast by applying to forecast housing starts an estimated market share (the proportion of starts in Union rate zone territory) and penetration rate (the proportion of those obtain gas service). Non-residential attachments/additions are forecast by calculating the historical proportion of non-residential attachments to residential attachments. Forecast customer counts (unlocks) are calculated by adjusting existing customer counts to reflect forecast new attrition/locks, and the forecast lags in unlocks.

Forecast customer counts are a key input to forecast volumes for all comparators' residential volume forecast and for all but two comparators' overall general service (non-contract market) customers. Considerable variety exists in the approaches used, including simple trend analysis, structural regression modeling, and more sophisticated time series disaggregation. Most comparators simply project an absolute customer count, though some do explicitly model new customer growth (then applied to existing customer counts). Where incremental (as opposed to total) customer counts are forecast, the variable used is net customer growth, implicitly tying together trends in attachments/additions and attrition/locks. The approaches employed by EGI for forecasting customer growth are consistent with the spectrum of approaches used by the comparator utilities.

[14] Forecast housing start values are developed from a consensus forecast derived from several financial institutes' reports and the Conference Board of Canada's provincial forecast.

Table 3-6. Comparator General Service Customer Forecast

Utility	Customer Count Forecast Approach	Drivers/Independent Variables or Other Considerations
Utility A	None. Customer forecast assumed to be flat for all classes.	Utility documentation indicates that customer counts had previously been forecast as a function of economic drivers (GDP, employment), but that this practice was discontinued following the 2008/2009 recession when changes in the economic indicators ceased to accurately predict customer growth.
Utility B	Regression analysis used to estimate relationship between total count of meters and key driving variables. Meter count regressions estimated by region and customer class. Forecast meter counts are converted into forecast customer counts by applying the class-specific historic average ratio of meters per customer.	Independent variables selected and tested using formally articulated selection criteria (e.g., statistically significance of parameters, magnitude of prediction error, etc.) Specifications may include economic and demographic variables such as: number of households, retail sales, and manufacturing employment. Specifications may also include time trends, dummy variables for the time of year, and for structural breaks in the time series.
Utility C	Existing residential and commercial customer counts used as a base, with forecast net customer additions added in forecast years.	Net residential and commercial customer additions are forecast by applying the number of forecast new meter installations (drawn from capital expenditure projections) to the ratio of historic three-year average net customer additions to new meter installations.
Utility D	Regression analysis used to project total monthly customer counts by class.	Regression specification does not include any demographic or economic variables. Documentation refers to this as time series regression, suggesting use of trends and seasonal dummies. Dependent variable adjusted prior to estimation to account for conversions from other fuels.
Utility E	Forecast customer count derived through application of class and region-specific growth rate to base year customer count. Base year customer counts are adjusted to reflect losses due to cut-and-cap[15] and attachments in that year.	Historical growth rate by class and region estimated using most recent 3 years of available monthly customer count data and is applied directly to adjusted base year counts. No economic or demographic factors applied in estimation of growth rate. "Customer" in customer count represents a meter or service charge.
Utility F	Regression analysis used to project total monthly customer counts by class for all non-industrial classes. Non-large volume industrial customer count assumed flat.	No external input forecasts used for projecting customer counts, suggesting that regression (specification not available) may only include trend and seasonal dummy variables. Forecast staff experiment with a variety of historical time periods for estimation, ultimately selecting one (for all classes) based on unspecified quantitative and qualitative (professional opinion) review of outputs.

[15] Removal of gas service – literally cutting and capping the premise gas connection.

Utility	Customer Count Forecast Approach	Drivers/Independent Variables or Other Considerations
Utility G	Minimal information available for customer count forecast approach, and only for residential customers. Available documentation suggests the use of linear regression to project annual customer counts.	Count of residential customers with and without gas heating modeled as a function of historical trends and expected residential construction.
Utility H	Customer counts are forecast based on aggregation of two different approaches: regression analysis for customer (meter) growth on existing pipelines, and the application of historical gas conversion rates to the population of region to be serviced for new pipelines.	Regression specification used for projecting utility customer growth on existing pipelines uses trend variables, monthly dummies for seasonal variation, and one-off dummies as required for "one-off" changes (e.g., change of billing systems that impacts nature of customer count). For transportation customers on existing pipelines, gross regional product at county level included as independent variable in regression analysis.
Utility I	Residential net customer additions are estimated by applying the average historical growth rate in housing starts to the existing customer count. Commercial net customer additions are estimated using the historical growth rate in total commercial customers.	For both residential and commercial customers, the most recent three years of history are used. Residential net customer additions are forecast by structural dwelling type and use forecast housing starts provided by the Conference Board of Canada
Utility J	Historical meter counts are disaggregated into trend and seasonal components via LOESS regression. Trend components of historical meter counts are regressed on economic and demographic variables. Estimated parameters from both regressions are applied to forecast economic and demographic values to forecast meter counts.	Trend component regressions are specified, and a variety of independent variables are tested for possible inclusion each forecast cycle. Variables considered for inclusion include population, employment, GDP, personal income, time trends, etc. Forecast meter counts are converted to forecast customer counts using the historical ratio of customers per meter.

3.4 General Service Average Use per Customer Forecast

Average natural gas use per customer, or “average use” (AU) is forecast in the EGD rate zone for all general service customers. In the Union rate zone, AU is forecast only for residential and commercial customers. Total gas volumes by customer group are then (as described below in Section 3.5) estimated by scaling the forecast AU by the forecast count of customers.

EGD rate zone addresses sector-specific variation in consumption patterns principally through differences in model specifications. In the EGD rate zone, AU is forecast using a mix of error correction models (ECM) and single equation regression models. The Union rate zone, in contrast, uses only single equation regression models. Additional details regarding the approach used for each rate zone can be found in Table 3-7 below.

Table 3-7. EGI General Service Average Use Per Customer Forecast

Modelling Category	EGD rate zone	Union rate zone
Forecast Approach	EGD rate zone forecasts AU by regressing observed AU by revenue class and region on a set of independent variables (including weather) and applying forecast values of those variables to the estimated model parameters. EGD rate zone's regression models for most revenue classes are Error Correction Models (ECM). ECMs are two-step models that account for long-run trends driving consumption as well as short-run shocks. EGD rate zone uses this approach in both the rate setting and gas supply planning process.	Forecast AU is the average of two forecasts: an AU forecast estimated by regressing AU on a set of independent variables and applying forecast values to the estimated parameters, and an AU forecast calculated by dividing a forecast of total volume by the forecast number of customers. Union rate zone uses this approach for gas supply planning. For rate setting purposes it uses the latest available observed AU, normalized based on the relative rate setting year's forecast degree days.
Drivers/Independent Variables or Other Considerations	Independent variables include: HDD[16], a vintage ratio (capturing some trends in energy efficiency), a time trend, gas prices, GDP, commercial vacancy rate, employment, and annual binary (dummy) variables. Specifications vary by class and region and are determined on the basis of out-of-sample testing.	Independent variables include HDD (non-summer months only), a weighted furnace stock efficiency index, average number of inhabitants per home, historic average monthly bill values, foreign exchange rates, the price of alternative fuels, time trend, and annual binary (dummy) variables.

AU per customer forecasts, often a function of economic and demographic variables, are used in some form across all comparators, indicating that EGI is aligned in practice and procedure to comparator companies. There is a wide range in the sophistication and complexity of the forecasting techniques and testing regimes applied for selecting those techniques. Most comparators do not explicitly attempt to control for violations of ordinary least squares (OLS) regression assumptions[17] and none use an ECM approach to control for the dynamics of short-term shocks and long-term mean reversion[18], putting the EGD rate zone approach at the more sophisticated end of the scale.

Many of the comparator utilities that use regression analysis consider a large number of possible independent variables for inclusion in the regression model specification, re-testing on a forecast cycle basis, and allowing specifications to differ across classes or regions within their territory. In one case, testing criteria are well defined by the utility forecast staff and laid out in detail, but in most cases model selection is not described in detail, though where model selection activities are referenced, it appears to be an activity repeated in each forecast period.

[16] The balance point – the "base" temperature used to calculate HDD from degrees Celsius – varies by EGD weather zone

[17] Such as serial correlation (autocorrelation) and heteroscedasticity.

[18] Utility J takes an analogous, though different in specifics, approach to forecast customer counts (rather than average use).

Table 3-8. Comparator General Service Average Use Per Customer Forecast

Utility	Forecast Approach	Drivers/Independent Variables or Other Considerations
Utility A	Residential and Commercial AU is estimated using a statistically adjusted end-use (SAE) approach. Industrial and some other customer groups' AU is estimated using a more traditional linear regression.	The SAE models regress AU on a small number of composite index variables constructed from appliance efficiency and saturation measures, HDD, billing days, income and gas price. Conceptually, the SAE approach develops a bottom-up estimate for average heating use per customer and average non-heating AU in each year (with end-use specific data) and embeds these estimates in a regression equation to estimate a correction factor for each index. This factor, which corrects for any bias in the underlying bottom-up estimates that's consistent across time, is applied to forward-looking estimates of the bottom-up estimated AU values. The AU model for industrial customers includes various different types of GDP and employment as independent variables.
Utility B	The utility estimates AU by region and customer class and forecasts AU by applying forecast values of the variables (including EDD) to the estimated parameters delivered by linear regression.	The model specifications used for each class and region vary by forecast cycle according to the results of forecast model testing. The utility has a defined set of characteristics to which each selected regression specification must adhere as much as possible. A large number of potential model specifications are estimated for each class and region, including different combinations of independent variables, the inclusion of which is supported by economic theory. Test statistics calculated for each of the model specifications are compared against a set of transparent selection criteria (e.g., out-of-sample absolute average forecast error must be less than 10%) to assist in the selection of the final specification to be used. Independent variables include weather, demographic, economic, and price variables. The principal weather variable is EDD. Economic and demographic variables include: households, population, GDP, personal income, manufacturing employment, etc. Price variables include sector-specific natural gas and fuel oil prices, as well as gas/oil price ratios.
Utility C	Forecast AU is estimated by regressing weather-normalized historic AU, by class, using linear regression with some auto-regressive components (residential, commercial, industrial) or Box-Jenkins stochastic processes (other groups).	For each sector using a structural regression model (i.e., residential, commercial, industrial), model specifications are tested for a large number of possible independent variables, including auto-regressive, demographic, economic, binary (dummy) and price variables. Only one structural (non-dummy or non-AR) variable is included in each model, and its selection (from the larger pool of potential variables) appears to be determined on the basis of in-sample performance.
Utility D	The estimated AU applied to forecast customer counts is estimated by normalizing[19] historic AU to expected/normal weather, water temperature, and billing days, and by applying adjustments to account theft of service.	Regression analysis is not used explicitly to estimate forecast AU, though is essential in the process of weather- and water-normalization. Economic and demographic variables appear to be assumed not to impact AU directly. No trends appear to be included, though DSM adjustments for forecast energy efficiency are applied to the volume forecast generated when the estimated AU (i.e., base year adjusted AU) is applied forecast number of customers.

[19] AU is weather normalized by applying a use per heating degree-day per bill factor, estimated by regressing observed monthly billed AU on heating degree days.

Utility	Forecast Approach	Drivers/Independent Variables or Other Considerations
Utility E	AU is weather-normalized using a linear regression to estimate average daily weather sensitivity parameters, and applying these to projected daily "normal" weather. Weather-normalized AU is further adjusted for the projected changes in utility gas heat value (ratio of thermal energy to volume) and forecast DSM program achievement to deliver forecast AU.	Normal daily weather, required for the forward-looking weather normalization, is derived through the application of monthly HDD values to a daily stochastic HDD assignment based on the historic standard deviation of HDD by day of month. This accommodates weather regression parameters which allow for three different relationships (i.e., splines) between weather and temperature, which the utility believes captures the non-linear effects at threshold temperatures more accurately. No adjustments or controls (aside from weather, heat value, and DSM) appear to be applied for other trends or factors (demographic or economic) to AU.
Utility F	For most customer classes, AU is forecast by regressing historical customer AU on a set of independent variables and applying the forecast values (e.g., normal weather) to the estimated parameters. For small industrial customers, average AU from the most recently observed 12 month period is held constant across the forecast period.	For the sectors where regression is applied, AU is modeled as a function of delivery rates, commodity prices and heating degree days. Forecast staff experiment with a variety of historical time periods for estimation, ultimately selecting one (for all classes) based on unspecified quantitative and qualitative (professional opinion) review of outputs.
Utility G	Residential AU is estimated is forecast by regressing historical AU by billing-month on a set of independent variables and applying forecast values to the parameters thus estimated. Residential AU is forecast separately for space-heating and non-space-heating customers. Industrial and commercial volumes are not estimated on am AU basis.	The residential AU regression equation includes a set of monthly dummy variables, the one-year lagged price of gas and the one-year lagged sum of total real wages and salary disbursements for the state. Some months of the time series are excluded to avoid distortions to historical data resulting from a billing system migration.
Utility H	AU is forecast for all classes by regressing average AU on a set of independent variables and then applying forecast values of those variables to the estimated parameters	AU regression specifications vary somewhat across classes but all include monthly dummy variables and HDD. Historical data are adjusted (or the model specification set) such that estimated model parameters can be applied to calendar months in the forecast period. For some models, dummy variables are included to capture the "polar vortex" effects in March 2014.
Utility I	For residential and commercial customers, forecast AU is either held constant at the average weather-normalized AU from the most recent 3 years or grows at the rate observed in the most recent 3 years.	For each class, monthly 12-month moving sums are created (i.e., for each month the AU for the 12 months up through the end of that month is calculated). This value is regressed on a linear time trend. If the R^2 value is 0.5 or higher, the estimated trend parameter is used to project future growth. If the R^2 is less than 0.5, the AU from the most recent 3 years is used.
Utility J	Residential, commercial, an industrial AU are forecast by regressing historical monthly AU on a set of independent variables and applying forecast values to the parameters thus estimated. This is performed by region.	Each AU regression includes HDD. A suite of economic and demographic variables (GDP, employment, etc.) were tested for each customer group and region, though model specification selection criteria remain unclear. In the documentation reviewed, residential use models did not include any demographic or economic variables. HDD for these models were interacted with linear time trends for those months where testing revealed a statistically significant trend in AU. Non-residential AU was modeled as a function of GDP and HDD.

3.5 General Service Volume Forecast

Total volume is forecast for all general service customers in the EGD rate zone as a function of average use per customer and the projected number of customers. A similar approach is used for the Union rate zone (scaling forecast AU by number of customers) for residential and commercial customers, but for (non-contract) industrial customers, volume is forecast directly (in aggregate). Both EGD and Union rate zones control for the effects of programmatic DSM and building code changes in approximately the same way: housing vintage (EGD rate zone), furnace efficiency (Union rate zone), or time trend (both) variables included in the AU regressions are assumed to capture the effects of future energy efficiency growth aligned to historical trends. Incremental programmatic DSM (i.e., that which would not be captured by forecast values of the AU trend and vintage/efficiency variables) is subtracted from the overall sector-specific volume forecast.

Additional details regarding each legacy utility's approach may be found in Table 3-9 below.

Table 3-9. EGI General Service Volume Forecast

Modelling Category	EGD rate zone	Union rate zone
Forecast Approach	Forecast AU is multiplied by forecast number of customers for all sectors.	Forecast AU is multiplied by forecast number of customers for the residential and commercial sectors. Industrial volume is forecast by regressing total historical volume on a set of independent variables and applying forecast values of those variables to the estimated parameters. Independent variables for the industrial volume regression include HDD, binary (dummy) variables for historical structural changes, the price of heavy fuel oil and the foreign exchange rate.
DSM and Other Adjustments	Adjustments applied to the sector-level volume forecast include changes to reflect planned DSM and building code changes not otherwise captured in the AU regression variables (vintage, time trend), as well (for non-residential customers only) anticipated migrations of customers between the general service and contract market.	Adjustments applied to the sector-level volume forecast include changes to reflect planned DSM not otherwise captured in the AU regression variables (furnace efficiency, time trend)

All of the comparator utilities forecast residential volume as the product of a forecast of AU and a forecast of customer counts. Most of the comparator utilities also use this two-step approach for other sectors, though in some cases commercial sector and (most

often) industrial sector volumes are forecast through a total volume approach. This is consistent with both the EGD rate zone approach (which applies a customer count times AU approach across all sectors) and the Union rate zone approach (which applies a total volume approach for industrial customers).

Utility I (an outlier in many aspects of its forecast) uses a survey-based approach for all its industrial customers, both general service and contract market. Without any kind of out-of-sample testing it is impossible to say to what degree such an approach improves on the accuracy of the more traditional approaches used by the other utilities, but this "crowd-sourcing" could conceivably mitigate against the classic weakness of econometric forecasts – that they cannot accommodate structural changes in the underlying relationships driving demand (for example, some kind of industry-specific industry transition).

The approaches used to adjust the forecast for DSM vary widely across the utilities, with many not making any explicit adjustment for it on the basis that future DSM achievement will be aligned to historic trends in DSM. This may be a suitable approach when there is no expectation of an acceleration in DSM attainment.

None of the utility forecasts reviewed appear to consider any radical changes to the underlying relationships driving volumes (e.g., electrification, adoption of renewable natural gas, etc.) as part of their core forecasts. Utility E does explicitly adjust forecast volume on the basis of anticipated changes in the system average heat value of its gas. The use of this mechanism does mean that this utility has in place a modeling workflow which could easily accommodate some assumed or forecast injection of hydrogen to the system.

The approaches used by the EGD and Union rate zones fall well within the range of approaches used by the comparator utilities for the overall forecast of general service volumes and post-forecast adjustments due to DSM or other factors.

Table 3-10. Comparator General Service Volume Forecast

Utility	Forecast Approach	DSM and Other Adjustments
Utility A	Residential volume is forecast as the product of forecast average use and forecast number of customers. Commercial volume is forecast using a very similar approach to that used for forecasting residential AU – an SAE approach that embeds a bottom-up estimate of gas consumption in a parsimonious regression model. In addition to many of the same variables used to estimate consumption in the residential model, commercial volume is modeled as a function of GDP. Industrial total volume is forecast by regressing total industrial volume on a set of independent variables and applying forecast values of those variables to the estimated parameters. The industrial volume forecast does not use an SAE approach. A detailed model specification is not publicly available, but available	DSM and trends in natural efficiency and codes and standards are explicitly controlled for within the stock-and-flow models that are used to develop the indices include in the two SAE regression models. No indication is available regarding whether changes in energy efficiency are accounted for implicitly or explicitly in the non-SAE industrial forecast.

Utility	Forecast Approach	DSM and Other Adjustments
	documentation notes the inclusion of GDP for food manufacturing and industrial employment in the model.	
Utility B	Volumes are forecast as the product of the forecast AU and forecast customer counts, described above.	No explicit adjustment is made to forecast volumes to account for DSM because future DSM goals do not exceed historical achievement. Forecast volume is adjusted on the basis of forecast changes in volume due to formerly capacity-exempt customers (not included in the standard delivery forecast) returning to the capacity-eligible market. This adjustment appears to be applied by forecasting weather-normal volume for the group of customers and applying recent historical trends in conversion from capacity-exempt to capacity eligible market.
Utility C	Volumes are forecast as the product of the forecast AU and forecast customer counts, described above. Forecast staff perform a robustness check by, in parallel, forecasting aggregate (across all customer types) total monthly volumes in a separate model and comparing this to the output of the more granular modeling. No details are available as to what tolerances are deemed acceptable in this comparison.	No evidence for additional adjustments to the volume forecast is present in the documentation available for this review. DSM or energy efficiency does not appear to be explicitly controlled for in the modeling but rather assumed to be embedded in existing trends.
Utility D	Volumes are forecast as the product of the forecast AU and forecast customer counts, described above.	Adjustments applied to volume forecast to: account for customers transferring from firm to non-firm service, remove theft volumes, and to account for A/C use outside of the standard cooling season. Further adjustments are applied to forecast volumes to account for the effects of utility DSM plans, as well as those of third-party agencies, and "natural" improvements in energy efficiency over time. In some cases, where DSM plans or projects have not yet been approved, the forecast team de-rates projected impacts (presumably reflecting the expected value of program savings conditional on a probability of approval).
Utility E	Volumes are forecast as the product of the forecast AU and forecast customer counts, described above.	Forecast volumes are adjusted to reflect forecast achievement of the utility's DSM planning. Forecast volumes are also adjusted to account for projected changes in the utility's system-average heat value (btu/cf) related to changes in the relative content of ethane in the utility's system. The construction of this adjustment could allow for future adjustments to the forecast to be easily made to reflect (for example) injections of hydrogen, though no reference is made to this consideration in the material reviewed.
Utility F	Volumes are forecast as the product of the forecast AU and forecast customer counts, described above.	At present forecast volumes are not adjusted for DSM, and there is an implicit assumption that DSM is embedded in existing trends in the AU

Utility	Forecast Approach	DSM and Other Adjustments
		forecast. Because forecast development includes the experimentation with different look-back periods (see AU section above), there may be some implicit calibration to account for changes in energy efficiency over time, which may be in turn affecting trends in estimated AU.
Utility G	Residential volumes are forecast as the product of the forecast AU and forecast customer counts, described above. Commercial and industrial volumes are forecast by regressing historical customer group aggregate volume on a set of independent variables and then applying forecast values of those variables to the estimated parameters. For the Commercial customers, volume is forecast as a function of HDD (interacted with all other variables), monthly dummies (interacted with all other variables except for one HDD term), the prior year's price of gas, the prior year's wage and salary disbursements, and the prior year's count of households. For Industrial customers, volume is forecast as a function of HDD (interacted with all other variables), the prior year's price of gas, and the prior year's manufacturing employment.	All forecast volumes are adjusted for DSM. To avoid any concerns of double-counting, the utility estimates historical DSM achievement and subtracts this from historical volume. This series (by customer group) then becomes the dependent variable for the regression (commercial, or industrial) or is divided by the customer count to deliver an adjusted AU that becomes the dependent variable. Once all space-heating customer group[20] volumes (exclusive of the effects of DSM) have been forecast, forecast DSM plan achievement is subtracted.
Utility H	Volumes are forecast as the product of the forecast AU and forecast customer counts, described above.	No explicit adjustments are made for DSM. The effects of DSM on volume have been considered and are the future growth of such impacts (consistent with observed history) are implicitly controlled for through trend parameters included in the AU models.
Utility I	Residential and commercial volumes are forecast as the product of the forecast AU and forecast customer counts, described above. For industrial volumes (including contract market customers – see more below), customers are provided with an individualized web-survey to complete. This survey is distributed on an annual basis, allows the respondent to compare historical actuals with previous forecasts and requests the respondent to provide a monthly forecast of the next 12 months, and an annual for the 4 years following that. The utility claims a completion rate for approximately half of the relevant customers representing 90% of industrial load.	The utility applies Holt's exponential smoothing to forecast values. It is unclear from the available documentation where in the forecast process exponential smoothing is applied, whether before or after the application of the decision tree described above for the inclusion of a trend in forecast AU.
Utility J	Volumes are forecast as the product of the forecast AU and forecast customer counts (themselves derived from forecast meter counts), described above.	No DSM adjustment is applied. Forecast documentation explicitly notes that utility programmatic DSM is included in observed historic sales and therefore implicitly controlled for in the trend variables included in the AU modeling.

[20] Non-space heating customer groups do not have volumes adjusted for DSM.

3.6 Contract Market Volume Forecast

For both EGD and Union rate zones, forecasting contract market demand depends on the insights and expert opinion of Account Executives (AEs)[21] and sales managers who work day-to-day with the large volume customers. For EGD rate zone, forecast consumption volume in the contract market is the sum of a probability-weighted forecast of new contracted consumption volume and existing contracted consumption volume, adjusted per the input of the AEs. This is described by EGI staff as its "grass roots" or "bottom-up" approach. For Union rate zone, econometric methods are used for smaller customers (Large Commercial/Industrial, or LCI, customers and Greenhouse customers). Rate 100 and T1 customers have their demand forecast on the basis of an end-use approach developed by AEs in collaboration with the customers themselves.

Table 3-11. EGD Rate Zone and Union Rate Zone Contract Market Volume Forecast

Modelling Category	EGD rate zone	Union rate zone
Contract Market Volume Forecast	Forecast consumption volume in the contract market is the sum of a probability-weighted forecast of new contracted consumption volume and existing contracted consumption volume, adjusted per the input of the AEs	Econometric methods are used for smaller customers (LCI customers and the greenhouse customers). Large Volume and South T-Service customers volumes are the sum of a probability-weighted forecast of new contracted consumption volume and existing contracted consumption volume, adjusted per the input of the AEs in collaboration with the customers themselves.

Below is the summary of Guidehouse's assessment of the Contract Market Volume Forecast methodologies used by the 10 utilities considered. Forecast volumes for very large volume customers (equivalent to EGI's contract market customers) appear, for many of the comparator utilities, to rely heavily on the qualitative expertise of utility and customer staff. This is consistent with EGI's "grass roots" approach and is a common and well-documented utility forecasting practice.[22]

[21] These are referred to as "account managers" in the Union rate zone documentation of the forecast process.

[22] See, for example the "Bottom-Up Forecasting" section of Simpson, Wayne, and Douglas Gotham, *Standard Approaches to Load Forecasting and Review of Manitoba Hydro Load Forecast for Needs For and Alternatives To (NFAT)*, undated
http://www.pubmanitoba.ca/nfat_hearing/NFAT%20Exhibits/CAC-25.PDF

Table 3-12. Contract Market Volume Forecast

Utility	Contract Market Volume Forecast
Utility A	Not in literature review
Utility B	Large volume account volumes are modeled in the same way as other customer groups, as a product of AU and customer count forecasts (both based on regression analysis).
Utility C	Large volume customer counts and volumes are forecast by applying “known changes” to base year observed volumes. Known changes are determined by marketing and sales staff through enquiries to customer staff.
Utility D	For large volume customers (both those contracted for firm and non-firm service) the utility’s forecasters assume that forecast period volumes will stay consistent with volumes in the base period (most recent complete calendar year).
Utility E	Each end user transportation customer’s volume is forecast on the basis its historical consumption, considerations of weather sensitivity, and the expert opinion of the customers’ corresponding dedicated account representative.
Utility F	Forecast volumes are developed using information obtained through communication with the customers
Utility G	Not in literature review
Utility H	Forecasters collaborate with key account managers to identify upcoming significant changes affecting gas consumption. This information is applied to historical sales volumes using forecaster expert judgement to deliver the forecast volumes for the largest volume customers.
Utility I	5-year forecast is informed through a survey where the utility’s largest customers project their monthly volumes for the next calendar year and annual volumes for the following 4 years.
Utility J	Large Volume account volumes are modeled in the same way as other customer groups product of use-per-customer forecasts, both based on regression analysis).

3.7 Revenue Stability & Deferral Accounts

Revenue stability mechanisms are common in all regulated utilities. The scope of such mechanisms varies but these are generally applied to better align utility incentives with societal benefits (e.g., by protecting utilities from revenue short-falls due to DSM), and to provide bilateral protection to customers and utilities for random shocks and deviations from trend (e.g., volatility in weather and macro-economic drivers of volume demand). Both EGD and Union rate zones are equipped with deferral accounts intended to stabilize revenues to fluctuations in weather-normalized AU.

Additional details regarding the deferral and variance accounts used in each rate zone may be found in Table 3-13 below.

Table 3-13. EGI General Service Customer Forecast

Modelling Category	Enbridge Gas Distribution	Union Gas
Revenue Stability Mechanism	Average Use True-Up Variance Account (AUTUVA)	Normalized Average Consumption (NAC) deferral account.
Approach	Historical weather-normalized AU is compared to OEB approved weather-normalized AU. The difference between these values is multiplied by the OEB approved number of customers in the given class and then by the OEB approved delivery rates. Where differences between forecast and observed AU result in over-collection, customers receive bill credits, where the opposite is the case, a surcharge is applied.	Historical weather-normalized AU is compared to the target forecast approved by the OEB in the approved delivery and storage rates case. The difference between these values is multiplied by the OEB-approved number of customers in the given class and then by the OEB approved delivery and storage rates. Where differences between approved and observed weather-normalized AU result in over-collection, customers receive bill credits, where the opposite is the case, a surcharge is applied.

All of the comparators reviewed in this report employ some form of revenue stabilization. One of the utilities examined employs an approach very similar to that of the EGD and UG rate zones: variances are recovered (or refunded) on the basis of weather normalized revenue. For many of the utilities, however, some stabilization mechanism exists to provide consumers and the utility with bilateral protection from weather volatility. In some cases, this is explicit in the mechanism (e.g., the weather normalization adjustments of utilities D, F, G, and J), in other cases it appears to be implicit (e.g., utilities A, B, C, E, and I). In most of the instances in which an explicit weather-related revenue stabilization mechanism exists, there also exists a revenue decoupling mechanism which includes revenues collected (or credits disbursed) as part of intra-season weather normalization adjustments.

Although bilateral in nature, the protection offered by these mechanisms is not always symmetric: under-collection variance recovery is capped for utilities B, C, E, and G. In some cases, the cap is set as an absolute value, but in others it is determined in relation to the utility's overall approved rate of return or projected DSM achievement.

A summary of Guidehouse's findings for all the comparators may be found in Table 3-14, below.

Table 3-14. Revenue Stability Mechanisms

Utility	Revenue Stability Mechanism	Approach	Mechanism Addresses Weather-Based Revenue Volatility
Utility A	Volume Balancing Adjustment (VBA) Rider	The VBA rider applies to all residential and small general service customers and is calculated annually, by class. The adjustment amount per therm is calculated as the difference between actual revenues and rate-case approved revenues divided by forecast therms.	Implicitly

Utility	Revenue Stability Mechanism	Approach	Mechanism Addresses Weather-Based Revenue Volatility
Utility B	Revenue Decoupling Mechanism	The RDM provides for the semi-annual (seasonal) calculation of a variable ($/therm) adjustment factor applied to customer bills, by class. The aggregate pool (by class) is calculated by taking the difference between benchmark revenue per customer and the average observed revenue per customer and scaling this by the observed customer count. Benchmark revenue per customer is the allowed average revenue per customer, per season, by class, reflective of base distribution revenue determined in the most recent distribution rate case. Where revenue under-collection compared to the benchmark exceeds 3%[23] of total revenue from firm sales (for the given customer class) in the prior year (for the same season), funds in excess of the 3% threshold are carried over to the next year.	Implicitly
Utility C	Revenue Decoupling Rider	The rider allows the utility to recover its authorized revenues regardless of the causes of in variation up to an approved revenue cap. Every 12 months, actual utility revenues reflecting customer fixed and variable charges (net of charges for funding utility energy efficiency and affordability programs) is compared to the authorized number of customers and authorized sales volumes. Where there is over-collection, customers are refunded the difference between actual and authorized revenue in the subsequent 12 months. Where there is under-collection, a surcharge is applied to customers in the subsequent 12 months. The aggregate surcharge may not exceed 10% of authorized revenues. Adjustments are applied by rate class.	Implicitly
Utility D	Revenue Decoupling Mechanism and Weather Normalization Adjustment	The weather normalization adjustment is a $/therm surcharge or credit that is calculated and applied on a billing cycle basis by calculating the difference between that cycle's normal HDD and actual (observed) HDD, times the average therms per HDD and the base rate and then dividing that value by total therm consumption in that billing cycle. This is calculated by cycle and class. The RDM reconciliation process occurs annually. This reconciliation calculates the difference between actual and allowed delivery revenue from base rates (inclusive of any weather normalization surcharges and credits). This variance is then applied as a $/therm surcharge or credit to customers (by class) in the following year.	Yes
Utility E	Revenue Decoupling Mechanism	This utility's revenue decoupling mechanism applies to residential and small to medium sized general service (non-residential customers) and is applied as part of an annual reconciliation process. The mechanism compares rate-case approved total revenue by class with actual weather normalized revenue by class, with differences being recovered from, or returned to,	Implicitly

[23] The 3% threshold is asymmetric and applies only to cases of under-collection. Where average observed revenue per customer is less than benchmark revenue per customer, there appears to be no similar rule in place imposing a ceiling on customer credits.

Utility	Revenue Stability Mechanism	Approach	Mechanism Addresses Weather-Based Revenue Volatility
		customers as a surcharge or credit. Under-collection recovered by the utility is capped, with the cap determined as a function of the utility's legislated DSM targets.	
Utility F	Revenue Decoupling Mechanism and Weather Normalization Adjustment	The weather normalization adjustment is a $/Mcf surcharge or credit that is calculated and applied on revenue month basis for the months of October through May. This is calculated by taking the difference between that month's normal HDD and actual (observed) HDD, multiplied by a month-specific degree day factor (capturing the incremental Mcf gas consumption per HDD) times the relevant charge, divided by total consumption. This is calculated by month and class. The RDM reconciliation process occurs annually at the end of March. Reconciliation is determined through a comparison of weather-normalized actual AU with imputed weather-normal AU.	Yes
Utility G	Weather Normalization Charge	A weather normalization charge applies to residential, commercial and large volume consumers from October through May of each year. Charges for the subsequent period are set at the end of each winter by comparing each winter month's HDD to the weather-normal HDD for the given month. If the sum of these differences fall within a dead-band of 0.5% of normal winter HDD, no charge or refund is applied. When the total difference is outside the dead-band, the revenue deficiency (or surplus) is calculated by applying a margin revenue factor, and recovered (or refunded) in the subsequent period. Revenue deficiency recovery amounts are capped such that any recovery charges cannot result in the utility earn a rate of return on common equity in excess of its approved percentage.	Yes
Utility H	Gas Cost Recovery Mechanism	Under this mechanism, gas costs which exceed an established monthly benchmark commodity price may be approved for recovery by the utility's regulator.	No
Utility I	Revenue Stabilization Adjustment Mechanism	Variances between the forecast and actual delivery margin are captured in a deferral account and refunded or collected from customers in subsequent year through an annual reconciliation process.	Implicitly
Utility J	Revenue Decoupling Mechanism and Weather Normalization Adjustment	The weather normalization adjustment is a $/therm surcharge or credit that is calculated and applied on a billing cycle basis by calculating the difference between that cycle's normal HDD and actual (observed) HDD, scaling this using an average annual degree day factor (capturing incremental therm consumption per degree day, by class) and the margin/non-gas rate. This value is then divided by total therm consumption in that billing cycle. This is calculated by cycle and class. This utility's RDM is reconciled on an annual basis in July of each year. This reconciliation calculates the difference between actual and allowed delivery revenue from delivery rates (inclusive of any weather normalization surcharges and credits). This variance is then applied as a $/therm surcharge or credit to customers (by class) in a 12-month period that begins in October of the following year.	Yes

4. Conclusion

Utility gas volume forecasting is a highly heterogenous practice and no two utilities (even those owned by the same company) use an identical approach. For non-contract customers (referred to by EGI as general service customers), there are clearly consistent trends across utilities: most derive their forecast of total volume through the combination of a customer count forecast and an AU forecast. All employ some form of forward-looking weather normalization, either implicitly within a regression equation or explicitly as a pre-processing step to regression estimation. Very large and contract market customers' volumes are not typically forecast in the same manner but are much more dependent on direct intelligence and expert opinion from account representatives or the customers themselves.

EGD and Union rate zones' forecasting approaches are consistent with the range of approaches reviewed, if perhaps more sophisticated than the average. EGD rate zone's error correction time-series modeling, in particular, stands out in comparison to many of the other approaches, few of which consider (let alone address) issues of serial correlation. EGI's load forecasting practices are all consistent with standard industry practices and are in some cases (though the comparison across utilities is never perfect) may be considered leading practices.

In terms of revenue stability mechanisms, Guidehouse has observed that all comparator utilities are, like EGI, subject to some form of stability mechanism to compensate for DSM programming or other non-weather exogenous variations in observed volumes from trend. In addition to this a majority of the comparator utilities (unlike EGI) are also subject to some mechanism that provides bilateral protection to customers and utilities from the natural volatility of weather (HDD) around its projected mean value. Such mechanisms are not always symmetric: under-collection variance recovery is capped for half of the utilities where the mechanism exists. No such mechanism is in place for EGI.

Appendix A. EGI's Proposed Approach and the Study Comparators

Following the completion of the benchmarking study above, EGI requested that Guidehouse review elements of its currently proposed forecasting approach and identify to what degree it is consistent with the methods used by the comparator utilities whose methods were reviewed for this report. In Table 4-1, below, EGI has provided a capsule description of its proposed approach to each of the forecasting elements reviewed by Guidehouse in the benchmarking report above (in the column "EGI Proposed Approach"). Guidehouse has reviewed these descriptions and provided a high-level summary of the manner in which the comparator utilities implement the corresponding element to contextualize the EGI-proposed approach.

When consulting the table below, and indeed the entire report above, reviewers should remember that no two utilities use an identical approach, and that the forecasting methods developed by every utility are a reflection of that utility's unique circumstances, including the composition of its customers, the training of its staff, and the legacy of the evolution of forecasting at that utility. So while a given approach might be common across many utilities at a high level (e.g., the use of regression analysis to estimate the relationship between average use per customer and its principal drivers) the specifics (e.g., the use of a price variable, or of macroeconomic variables) will vary considerably across – and sometimes within – utilities.

Table 4-1. EGI's Proposed Approach and the Study Comparators

Approach Element	EGI Proposed Approach	Approach used by Comparators
Heating Degree Day Forecasting	EGI is proposing to use 50/50 Hybrid (average of 20-yr Trend and 10-yr MA) for the Central weather zone, and 10-yr MA for the remaining weather zones. Selection of the forecasting methodologies for each weather zone was done by using the evaluation framework that compares ten different methodologies (including methodologies used by EGD and Union rate zones) through their forecasting performance (accuracy, symmetry and stability criteria)	Nine out of the 10 comparator utilities use HDDs or effective degree days (HDD adjusted for wind speed) as a fundamental pillar of their forecasting methodology. The sophistication and granularity of the approaches used to develop the weather series used to drive the forecast vary: some utilities simply use a rolling multi-year annual average, one uses an intercept-and-trend regression to project annual values, and others develop daily projections of HDD. Some of the comparator utilities have selected the approach in use on the basis of forecast, though many appear to do no testing or comparison of competing approaches. The method proposed by EGI of using historical average observed values is in line with the approaches used by the comparators and may be considered standard industry practice.
Weather Normalization	EGI is proposing using the weather (HDD) coefficients by month derived directly from the regression equations to determine the weather normalized actual average use. HDD coefficients in the equations are interpreted as a change in average use (m3) with one change in HDD.	Of the eight comparators for which the details of the weather normalization approach were available, three use a method that disaggregates historical consumption into baseload and heat load data and five use regression-based methods similar to the approach proposed by EGI, whereby the

Approach Element	EGI Proposed Approach	Approach used by Comparators
	Therefore, the normalized actual average use for a specific month is determined by multiplying this coefficient by the weather variance (Actual vs Budget HDD) for each related month48.	relationship between HDD and average use per customer (estimated as part of the forecast process) can be used to deliver weather-normalized observed volumes - an estimate of what observed volumes would have been under "normal" weather.
General Service Customer Count (Unlocks) Forecast	EGI's proposed customer additions forecast uses a combined econometric (top-down) and grassroots approach which is based on a number of sources, including information gathered through direct contact with builders, developers, and municipalities, as well as economic indicators such as housing starts, GDP growth, employment, and mortgage rates. The forecast of the average number of customers forecast is then determined using the customer additions forecast and the estimated customer shrinkage/ locked customers	Considerable variety exists in the approaches used by the comparator utilities to project customer counts. These include simple trend analysis, structural regression modeling, and more sophisticated time series disaggregation. Most comparators simply project an absolute customer count, though some do explicitly model new customer growth (then applied to existing customer counts). Where incremental (as opposed to total) customer counts are forecast, the variable used is net customer growth, implicitly tying together trends in attachments/additions and attrition/locks. The approach proposed by EGI to forecast the number of customers using macroeconomic data (e.g., GDP) and by combining a forecast of new customer additions and a forecast of customer attrition is consistent with the spectrum of approaches used by the comparator utilities.
General Service Average Use per Customer Forecast	EGI is proposing to use regression methodology to forecast its monthly average use by weather zone and sector. The main driver variables used in the models include weather (degree days), efficiency (vintage), economic variables and gas price. Driver variables vary for each equation based on the weather zone and sector. Customer forecast is adjusted for future Community expansion customers and number of Energy Transition assumptions.	All of the comparator utilities forecast average use per customer for at least some classes of customer. There is a wide range in the sophistication and complexity of the forecasting techniques and testing regimes applied for selecting those techniques, though nearly all use linear regression. Independent variables in the model specifications used by the comparator utilities include HDD, the price of natural gas, macroeconomic variables, and binary ("dummy") variables. The regression-based approach proposed by EGI is consistent with the range of approaches used by the comparator utilities and may be considered standard industry practice.
General Service Volume Forecast	EGI's general service volume forecast is determined by multiplying the forecasted number of customers by the average use forecasts for each weather zone/sector. The forecast is then adjusted for forecast DSM activity and other factors that cannot be captured through the forecasting methodology.	All of the comparator utilities forecast residential volume as the product of a forecast of average use per customer and a forecast of customer counts. Most of the comparator utilities also use this two-step approach for other sectors, though in some cases the commercial sector and (most often) industrial sector volumes are forecast through a total volume approach. The approaches used to adjust the forecast for DSM vary widely across the utilities. For one comparator utility, DSM is captured through changes in a forecast appliance efficiency index, while others directly apply an adjustment based on forecast DSM achievement. Many of the comparator utilities do not make any explicit adjustment for it on the basis that future DSM achievement will be in aligned to historic trends in DSM.

Approach Element	EGI Proposed Approach	Approach used by Comparators
		The approach proposed by EGI for projecting total future volumes as the product of forecast customer counts and forecast average use per customer is consistent with the approaches used by the comparator utilities, and the DSM adjustment applied is consistent with the approach used by a number of the comparator utilities.
Contract Market Volume Forecast	EGI is proposing to develop the customer and volume forecast for all customers in the large volume contract market through customer specific "bottom-up" forecast for existing and new customers supplemented by non-customer specific adjustments to reflect the impact of Demand Side Management (DSM), sector level growth, and other non-customer specific opportunities or risks based on historical experience.	Although some comparator utilities project large volume customers' gas consumption with a similar approach to that used for smaller customers, many use more qualitative techniques: consulting marketing and sales staff on future known changes to customer consumption (comparator C), consulting account representatives/managers within the utility (comparators E and H), or obtaining input information directly from the customers themselves (comparators F and I). EGI's proposed use of a customer-specific "bottom-up" approach is consistent with the approach used by many of the comparator utilities to forecast the consumption of their largest volume customers.
Revenue Stability & Deferral Accounts	EGI is proposing to implement Straight Fixed Variable Demand (SFVD) rate design. SFVD is proposed to be implemented in 2025 for general service customers. When approved there will be no revenue stability account other than an asymmetric Earnings Sharing Mechanism. EGI is proposing the use of a Volume Variance Account (VVA) for those years during the incentive rate mechanism term (including the 2024 Test Year) to which SFVD does not apply. The VVA will capture the revenue impact of differences in actual general service average use in a given year and the general service average use forecast used to derive rates in the 2024 Test Year.	All of the comparators reviewed in this report employ some form of revenue stabilization. Bilateral protection of consumers and the utility from the effects of weather volatility are explicitly addressed by the mechanism in place for four of the comparator utilities and is implicit in the mechanism of five comparator utilities (e.g., Utility E's revenue decoupling mechanism). Generally speaking, no explicit weather stabilization mechanism is necessary where rates are structured such that utility revenues are insensitive to normal and expected fluctuations in temperature around seasonal norms.

guidehouse.com

DEGREE DAY FORECASTING

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1. The purpose of this evidence is to describe and request approval of the proposed forecast methodologies for heating degree days (degree days or HDD) and to provide the forecast of degree days for the 2024 Test Year.

2. HDDs are a measure of how cold the temperature was on a given day or during a period of days. They are calculated over a period of time (typically a year) by adding up the differences between each day's mean daily temperature and the base temperature of 18°C. Enbridge Gas is proposing to use a different base temperature, 15°C rather than 18°C, to determine HDDs. Exhibit 3, Tab 2, Schedule 5, Attachment 1 provides the rationale for this proposed change. There is not enough historical data to recalculate actual HDDs using a base temperature of 15°C. This limited data prevents the analysis in this Exhibit to be conducted on HDDs with a base temperature of 15°C. Consequently, the analysis in this Exhibit is conducted on HDDs calculated using a base temperature of 18°C as sufficient data are available and the resultant HDD forecasts for the 2024 Test Year are then converted to base temperature of 15°C HDDs.

3. There was sufficient data, a shorter data set, to recalculate actual HDDs using a base temperature of 15°C for the purposes of estimating the proposed average use forecasting models provided at Exhibit 3, Tab 2, Schedule 5.

4. HDDs are used by different areas for different purposes in Enbridge Gas including demand forecasting, regulatory filing/reporting (determining normalized average use in setting rates, calculation of deferral account balances), the Gas Supply Plan,

and the calculation of normalized revenues. As provided at Exhibit 10, Tab 1, Schedule 1, if Straight Fixed Variable with Demand (SFVD) rate design is approved for general service rate classes, once implemented there will no longer be a need for a normalized average use adjustment for setting rates. The HDD forecast will continued to be used for other purposes, such as demand forecasting. Therefore, Enbridge Gas proposes to update its degree day forecast annually.

5. The EGD rate zone is comprised of the Central weather zone, the East weather zone and the West weather zone (formerly the Niagara weather zone). The Union rate zone is comprised of the South weather zone and the North weather zone. Enbridge Gas decided not to change the current weather zones used by EGD and Union Gas rate zones since the historical data available is categorized based on these zones and more granular data cannot be aggregated. The current weather zones work well with Enbridge Gas's operations and Gas Supply Plan and provide a more accurate picture of demand.

6. Enbridge Gas is requesting the OEB approval to use the 50/50 Hybrid approach for the Central weather zone and 10-Year Moving Average (10-yr MA) approach for the remaining weather zones. Enbridge Gas believes that these forecasting methods produce the best degree day forecast for each weather zone. The methodology used to evaluate and select each forecasting method presented in this Exhibit allowed Enbridge Gas to identify the methodology that minimizes the variance between forecast and actual degree days.

7. This evidence is organized as follows:
    1. Background
    2. Evaluation Framework
    3. Selection of Forecast Methodology: Evaluation Results

4. 2024 Degree Day Forecast
5. Summary

1. Background

8. For the EGD rate zone, the OEB previously approved[1] the selection of weather forecasting methodologies based on an evaluation framework. For that framework nine forecasting methods were evaluated. Those methods were: the Naïve method, 10-yr MA, 20-Year Moving Average (20-yr MA), 20-Year Trend (20-yr Trend), 30-Year Moving Average (30-yr MA), 50/50 (Average of 20-yr Trend and 30-yr MA), de Bever, de Bever with Trend, and the Energy Probe method. The best methodology selected using the evaluation framework flipped between the 20-yr Trend and the 10-yr MA for the Central weather zone over three years when the evaluation timeframe was updated as part of EGD's 2014 to 2018 IRM proceeding. In 2014, a 50/50 Hybrid (Average of 20-yr Trend and 10-yr MA) methodology was added to the evaluation framework which the OEB-approved.[2] The EGD rate zone currently uses 50/50 Hybrid, de Bever with Trend and 10-yr MA methodologies to determine the degree day forecast for Central, East and West weather zones respectively.

9. The Union rate zones have used a blended weather forecasting methodology that combines the 20-yr Trend method with the 30-yr MA method since 2004. The initial blended ratio set by the OEB for 2004 was 70% for the 30-year average and 30% for the 20-yr Trend methodology. This blend was reset in the 2007 Rates proceeding[3] to a 55:45 blended ratio. In the 2013 Rates proceeding[4], Union proposed a change in methodology to move to 20-yr Trend methodology by providing a comparison between three methodologies (20-yr Trend, 30-yr MA and

[1] EB-2006-0034, OEB Decision and Order, July 5, 2007.
[2] EB-2012-0459, OEB Decision and Order, August 22, 2014.
[3] EB-2005-0520.
[4] EB-2011-0210.

55:45). The OEB found there was not sufficient information to demonstrate the 20-year trend was the most accurate and appropriate methodology. Therefore, the OEB directed that a 50:50 blended approach of the 20-yr Trend and the 30-yr MA methodology be adopted. The Union rate zones currently use the 50:50 blended approach of the 20-yr Trend and the 30-yr MA methodology.

10. In the MAADs Decision,[5] the OEB allowed Enbridge Gas to continue to use the existing OEB-approved methodologies for the 2018 to 2023 deferred rebasing term. In the 2020 Rates proceeding for Enbridge Gas[6], parties expressed concern about the predictive ability of the OEB-approved methodologies used for average use and degree day forecasts for the EGD and Union rate zones. The parties acknowledged that these methodologies would continue to be in place during the deferred rebasing term. Enbridge Gas agreed to file a study as part of its rebasing application examining the various available methodologies for average use and degree day forecasts. Enbridge Gas also noted that it would re-evaluate the ranking to determine the best methodologies for each rate zone in its rebasing application.

11. Enbridge Gas engaged Guidehouse Canada Ltd. (Guidehouse) to complete a natural gas volume forecast approach comparative review study (Guidehouse Study). This study outlines Guidehouse's understanding of how comparable utility organizations forecast their natural gas volumes (including degree day forecast and normalization) based on publicly available literature and interviews. The Guidehouse Study can be found at Exhibit 3, Tab 2, Schedule 2. The Guidehouse Study indicates that a moving average is a widely used approach utilized by many comparator utilities to forecast degree days. The Guidehouse Study also shows that

[5] EB-2017-0306/EB-2017-0307, OEB Decision and Order, August 30, 2018.
[6] EB-2019-0194.

a majority of comparators appear to do no testing or comparison of alternative methodologies[7].

2. Evaluation Framework

12. In order to determine the forecast methodology for each of the five weather zones to be proposed for use in 2024 and beyond, Enbridge Gas used the same OEB-approved evaluation framework that has been used for the EGD rate zone since 2006. This evaluation framework was deemed appropriate because it considered the reasonability and performance of various methods based on statistical analysis. The forecast evaluation period encompasses the last 20 years of actual data[8] (2002 to 2021). Each of the alternative forecasting methods were considered with respect to how well each met the objectives of accuracy (as represented by Mean Absolute Percent Error (MAPE) and Root Mean Squared Percent Error (RMSPE)), symmetry (as represented by Mean Percent Error (MPE) and percent over-forecast (POF)) and stability (as represented by standard deviation or STDEV).

13. Accuracy measures the difference between forecast and actual degree days. The MAPE is the average of the yearly absolute percent errors, where the absolute percent error in any year is the absolute error divided by the actual value. The RMSPE is similar but it squares each percentage error, thus penalizing large

[7] Guidehouse Study, Section 3.1., page 7 and Appendix A, Table 4.1., page 29.
[8] Gas Supply degree days that are provided by Gas Control for each weather zone. Gas Control receives hourly temperature data information from an independent weather service (DTN Meteorlogix) which provides data based on the gas day i.e., 10:00 AM to 9:00 AM EST and a daily average is calculated based on this schedule. The independent weather service uses information provided by Environment Canada for the locations identified. The station codes for the observed data are in brackets: Central (CYYZ), East (CYOW), West (CYSN), South: London (CYXU), North: Sudbury (CYSB), Kingston (CYGK), Thunder Bay (CYQT), Sault Ste. Marie (KCIU), Muskoka (CYQA), International Falls/Fort Frances (KINL). Stations used for the calculation of the degree days for the South and North weather zones have been changed to align with gas delivery areas used in Gas Supply Plan. Degree day for the South weather zone is from London (CYXU) station and for the North weather zone is a weighted average from the stations provided above.

forecasting errors, adding another dimension to the evaluation. For both the MAPE and RMSPE, smaller statistics signify more accurate results.

$$MAPE = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{\left|Forecast_i - Actual_i\right|}{Actual_i}\right) \quad RMSPE = \sqrt{\frac{1}{N}\sum_{i=1}^{N}\left(\frac{Forecast_i - Actual_i}{Actual_i}\right)^2}$$

Where:

N = the number of years

14. Symmetry measures the bias of a particular forecasting method (i.e., whether it consistently forecasts low or high). The MPE is the average of the yearly percent errors, where the percent error is the error divided by the actual value. If the forecasting approach is unbiased, the MPE produces a percentage that is close to zero. The POF measure is equal to the number of over-forecasts divided by the number of years under consideration. The closer this statistic is to fifty percent, the less biased (more symmetrical) the method.

$$MPE = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{Forecast_i - Actual_i}{Actual_i}\right) \quad POF = \frac{O}{N}$$

Where:

O = the number of over-forecasts and

N = the number of years.

15. Stability measures the variability of the forecasts over time and is measured by standard deviation. The analysis assigns a better ranking to methods that produce forecasts with a relatively low standard deviation to recognize that relatively fewer variable forecasts are attractive from the perspective of rate stability.

$$STDV = \sqrt{\frac{\sum_{i=1}^{N}(Forecast_i - \overline{Forecast})^2}{N-1}}$$

Where:

N = the number of years

16. This evidence includes updated forecast accuracy comparisons for the 10 alternative forecasting methodologies that use each of the five weather zones' degree day data up to and including calendar year 2021. Each method was ranked from one to ten based on its relative performance for each metric (one is best, ten is worst), and then the relative rankings were summed to arrive at a score that determined the overall rank. Finally, the methodology that ranked best for each of the five weather zones was selected as the degree day forecasting methodology for that respective weather zone.

3. Selection of Forecast Methodology: Evaluation Results

3.1. Central Weather Zone

17. Table 1 provides the Central weather zone's out of sample degree day forecast[9] produced by each forecasting method. Table 2 summarizes the relative performance of these forecasts against actual weather observations by considering the most recent 20-year period. Figure 1 shows actual degree day data versus forecast degree days for the top three forecasting methodologies as determined by the evaluation framework.

[9] A two year lag is used to produce out of sample forecasts for the accuracy comparison purpose since this period is the Company's regular schedule except 2024. For example, the degree day forecasts for 2021 are produced from models estimated using actual data up to and including 2019. This estimation process corresponds to a typical test year forecasting process in which there is a Bridge Year and a Test Year. A three year lag is used for the 2024 degree day forecasts since at the time of the immediate application, the latest available actual data is 2021.

Table 1
Central Weather Zone: Actual and Forecast Heating Degree Days ('out-of-sample'), 2002 to 2021

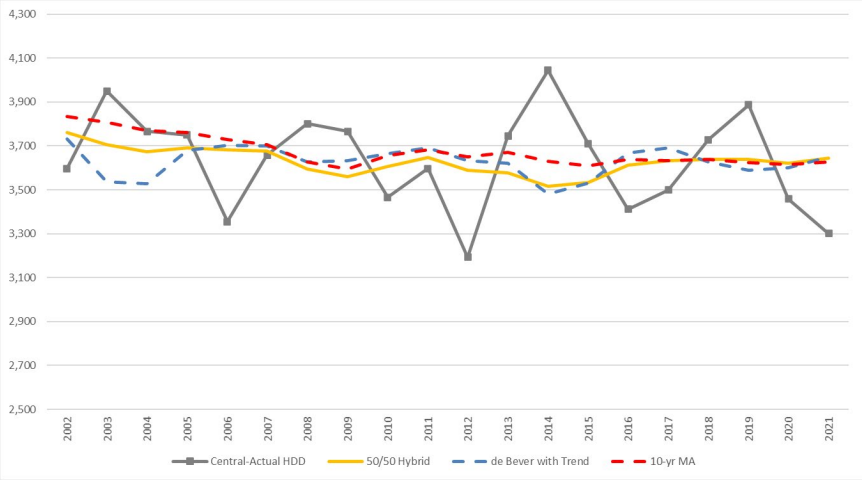
Line No.	Calendar Year	Actual	Naïve	10-yr MA	20-yr MA	20-yr Trend	30-yr MA	50/50	de Bever	de Bever with Trend	Energy Probe	50/50 Hybrid
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	2002	3,597	3,784	3,834	3,897	3,687	3,995	3,841	3,772	3,731	3,719	3,760
2	2003	3,949	3,400	3,809	3,863	3,603	3,972	3,788	3,662	3,536	3,542	3,706
3	2004	3,766	3,597	3,769	3,838	3,577	3,943	3,760	3,615	3,528	3,559	3,673
4	2005	3,750	3,949	3,760	3,835	3,623	3,945	3,784	3,780	3,680	3,724	3,691
5	2006	3,355	3,766	3,728	3,821	3,636	3,932	3,784	3,814	3,703	3,753	3,682
6	2007	3,659	3,750	3,704	3,807	3,647	3,925	3,786	3,821	3,701	3,772	3,676
7	2008	3,802	3,355	3,627	3,780	3,562	3,890	3,726	3,717	3,625	3,621	3,594
8	2009	3,767	3,659	3,596	3,780	3,522	3,877	3,700	3,705	3,633	3,615	3,559
9	2010	3,466	3,802	3,656	3,769	3,558	3,856	3,707	3,736	3,665	3,673	3,607
10	2011	3,597	3,767	3,683	3,748	3,613	3,842	3,728	3,763	3,692	3,710	3,648
11	2012	3,194	3,466	3,651	3,742	3,530	3,815	3,672	3,700	3,632	3,645	3,590
12	2013	3,746	3,597	3,671	3,740	3,487	3,799	3,643	3,689	3,620	3,618	3,579
13	2014	4,044	3,194	3,630	3,700	3,402	3,769	3,586	3,533	3,482	3,480	3,516
14	2015	3,710	3,746	3,610	3,685	3,457	3,760	3,609	3,588	3,530	3,531	3,534
15	2016	3,412	4,044	3,638	3,683	3,586	3,760	3,673	3,749	3,668	3,639	3,612
16	2017	3,499	3,710	3,634	3,669	3,633	3,750	3,691	3,777	3,691	3,668	3,633
17	2018	3,728	3,412	3,640	3,633	3,639	3,733	3,686	3,705	3,626	3,606	3,639
18	2019	3,887	3,499	3,624	3,610	3,654	3,728	3,691	3,666	3,589	3,623	3,639
19	2020	3,459	3,728	3,616	3,636	3,625	3,718	3,672	3,679	3,601	3,624	3,621
20	2021	3,301	3,887	3,628	3,655	3,661	3,708	3,684	3,739	3,651	3,617	3,644

Table 2
Central Weather Zone: Out-of-Sample Forecast Performance (2002 to 2021)

Line No.	Methodology	Accuracy				Symmetry				Stability			
		MAPE		RMSPE		MPE		Percent Over Forecast		Standard Deviation		Score (1)	Overall Rank
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Naïve	8.8%	10	10.4%	10	1.1%	5	60%	7	215	10	42	9
2	10-yr MA	5.2%	1	6.4%	1	1.5%	6	60%	7	69	4	19	3
3	20-yr MA	5.6%	3	7.2%	5	3.4%	9	65%	9	83	8	34	8
4	20-yr Trend	5.9%	5	6.9%	3	-1.0%	4	45%	4	74	6	22	5
5	30-yr MA	7.0%	9	8.7%	9	5.9%	10	90%	10	94	9	47	10
6	50/50	5.6%	4	6.9%	4	2.5%	7	55%	4	65	2	21	4
7	de Bever	6.4%	8	7.8%	8	2.5%	8	55%	4	74	5	33	7
8	de Bever with Trend	6.2%	6	7.2%	6	0.3%	2	50%	1	68	3	18	2
9	Energy Probe	6.2%	7	7.3%	7	0.5%	3	50%	1	75	7	25	6
10	50/50 Hybrid	5.5%	2	6.5%	2	0.3%	1	50%	1	60	1	7	1

Note :
(1) Score equals the sum of (b)+(d)+(f)+(h)+(j).

Figure 1: Central Weather Zone: Actual vs Forecast HDD



18. The 50/50 Hybrid method produces superior overall results for the 2002 to 2021 period. In regard to accuracy, the 10-yr MA and 50/50 Hybrid methods score roughly the same. Based on the overall ranking, the 50/50 Hybrid method is best suited to the historical data set and ranks best given its results on the basis of accuracy, symmetry and stability. Therefore, Enbridge Gas is proposing to continue to use the 50/50 Hybrid methodology for forecasting degree days for the Central weather zone.

3.2. East Weather Zone

19. Table 3 provides the East weather zone's out of sample degree day forecast produced by each forecasting method. Table 4 summarizes the relative performance of these forecasts against actual weather observations by considering the most recent 20-year period. Figure 2 shows actual degree day data versus forecast degree days for the top three forecasting methodologies as determined by the evaluation criteria.

Table 3
East Weather Zone: Actual and Forecast Heating Degree Days ('out-of-sample'), 2002 to 2021

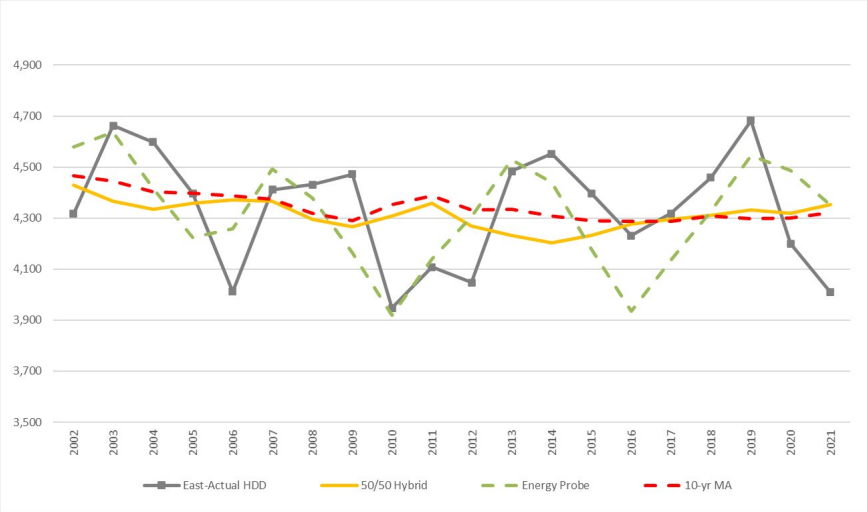
Line No.	Calendar Year	Actual	Naïve	10-yr MA	20-yr MA	20-yr Trend	30-yr MA	50/50	de Bever	de Bever with Trend	Energy Probe	50/50 Hybrid
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	2002	4,317	4,506	4,465	4,489	4,391	4,561	4,476	4,436	4,420	4,580	4,428
2	2003	4,663	4,071	4,445	4,475	4,284	4,538	4,411	4,418	4,385	4,638	4,365
3	2004	4,598	4,317	4,403	4,460	4,269	4,517	4,393	4,409	4,382	4,416	4,336
4	2005	4,397	4,663	4,397	4,467	4,320	4,527	4,423	4,455	4,405	4,223	4,359
5	2006	4,012	4,598	4,387	4,472	4,353	4,524	4,439	4,378	4,367	4,259	4,370
6	2007	4,411	4,397	4,374	4,459	4,360	4,522	4,441	4,342	4,341	4,492	4,367
7	2008	4,431	4,012	4,319	4,434	4,271	4,492	4,382	4,248	4,267	4,380	4,295
8	2009	4,472	4,411	4,289	4,442	4,244	4,486	4,365	4,316	4,319	4,163	4,267
9	2010	3,947	4,431	4,352	4,433	4,263	4,469	4,366	4,411	4,418	3,920	4,307
10	2011	4,108	4,472	4,388	4,412	4,330	4,467	4,399	4,455	4,466	4,140	4,359
11	2012	4,048	3,947	4,332	4,399	4,206	4,437	4,321	4,419	4,414	4,307	4,269
12	2013	4,484	4,108	4,336	4,390	4,127	4,428	4,277	4,403	4,385	4,529	4,231
13	2014	4,552	4,048	4,309	4,356	4,100	4,409	4,255	4,417	4,319	4,441	4,204
14	2015	4,397	4,484	4,291	4,344	4,175	4,408	4,291	4,302	4,267	4,178	4,233
15	2016	4,231	4,552	4,286	4,337	4,266	4,410	4,338	4,384	4,364	3,935	4,276
16	2017	4,318	4,397	4,286	4,330	4,304	4,401	4,353	4,429	4,406	4,136	4,295
17	2018	4,459	4,231	4,308	4,313	4,314	4,392	4,353	4,404	4,377	4,327	4,311
18	2019	4,682	4,318	4,299	4,294	4,367	4,394	4,380	4,395	4,365	4,546	4,333
19	2020	4,200	4,459	4,302	4,327	4,338	4,389	4,363	4,412	4,383	4,487	4,320
20	2021	4,009	4,682	4,323	4,355	4,386	4,382	4,384	4,489	4,466	4,351	4,354

Table 4
East Weather Zone: Out-of-Sample Forecast Performance (2002 to 2021)

Line No.	Methodology	Accuracy				Symmetry				Stability			
		MAPE		RMSPE		MPE		Percent Over Forecast		Standard Deviation		Score (1)	Overall Rank
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Naïve	7.3%	10	8.5%	10	0.8%	4	50%	1	219	10	35	9
2	10-yr MA	4.4%	3	5.3%	2	0.4%	3	45%	4	54	2	14	1
3	20-yr MA	4.4%	2	5.7%	5	1.7%	9	60%	6	63	7	29	7
4	20-yr Trend	5.1%	9	5.9%	6	-1.0%	5	40%	6	82	8	34	8
5	30-yr MA	4.7%	5	6.1%	9	3.0%	10	70%	10	59	6	40	10
6	50/50	4.6%	4	5.6%	4	1.0%	6	55%	4	56	3	21	4
7	de Bever	4.9%	7	5.9%	7	1.7%	8	50%	1	57	5	28	6
8	de Bever with Trend	5.0%	8	6.0%	8	1.2%	7	50%	1	54	1	25	5
9	Energy Probe	4.0%	1	4.7%	1	-0.2%	1	40%	6	203	9	18	2
10	50/50 Hybrid	4.7%	6	5.5%	3	-0.3%	2	40%	5	56	4	20	3

Note:
(1) Score equals the sum of (b)+(d)+(f)+(h)+(j).

Figure 2: East Weather Zone: Actual vs Forecast HDD



20. In regard to accuracy and symmetry, the 10-yr MA and Energy Probe methods score very closely. For the stability, 10-yr MA method produces superior results. Based on the overall ranking, the 10-yr MA is best suited to the historical data set and ranks best given its results on the basis of accuracy, symmetry and stability. Therefore, Enbridge Gas is proposing to use the 10-yr MA methodology for forecasting degree days for the East weather zone.

3.3. West Weather Zone

21. Table 5 provides the West weather zone's out of sample degree day forecast produced by each forecasting method. Table 6 summarizes the relative performance of these forecasts against actual weather observations by considering the most recent 20-year period. Figure 3 shows actual degree day data versus forecast degree days for the top three forecasting methodologies as determined by the evaluation criteria.

Table 5
West Weather Zone: Actual and Forecast Heating Degree Days ('out-of-sample'), 2002 to 2021

Line No.	Calendar Year	Actual	Naïve	10-yr MA	20-yr MA	20-yr Trend	30-yr MA	50/50	de Bever	de Bever with Trend	Energy Probe	50/50 Hybrid
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	2002	3,304	3,553	3,500	3,555	3,405	3,637	3,521	3,502	3,474	3,560	3,452
2	2003	3,688	3,162	3,487	3,532	3,328	3,621	3,474	3,462	3,441	3,674	3,407
3	2004	3,485	3,304	3,454	3,507	3,316	3,602	3,459	3,462	3,441	3,424	3,385
4	2005	3,580	3,688	3,456	3,512	3,364	3,607	3,485	3,514	3,486	3,321	3,410
5	2006	3,079	3,485	3,443	3,500	3,388	3,602	3,495	3,494	3,470	3,209	3,416
6	2007	3,349	3,580	3,443	3,496	3,425	3,598	3,512	3,489	3,475	3,473	3,434
7	2008	3,510	3,079	3,371	3,481	3,321	3,576	3,448	3,378	3,364	3,598	3,346
8	2009	3,547	3,349	3,341	3,468	3,308	3,545	3,427	3,415	3,384	3,411	3,325
9	2010	3,322	3,510	3,399	3,463	3,336	3,539	3,437	3,521	3,520	3,150	3,367
10	2011	3,334	3,547	3,426	3,461	3,372	3,525	3,449	3,558	3,560	3,195	3,399
11	2012	3,013	3,322	3,403	3,451	3,349	3,504	3,426	3,505	3,497	3,351	3,376
12	2013	3,537	3,334	3,420	3,454	3,302	3,495	3,398	3,467	3,451	3,702	3,361
13	2014	3,814	3,013	3,391	3,422	3,231	3,468	3,350	3,463	3,432	3,637	3,311
14	2015	3,548	3,537	3,376	3,416	3,288	3,467	3,377	3,399	3,367	3,402	3,332
15	2016	3,233	3,814	3,408	3,426	3,400	3,469	3,434	3,521	3,462	3,172	3,404
16	2017	3,282	3,548	3,405	3,424	3,446	3,466	3,456	3,551	3,529	3,214	3,426
17	2018	3,537	3,233	3,421	3,396	3,455	3,461	3,458	3,498	3,467	3,350	3,438
18	2019	3,670	3,282	3,414	3,377	3,464	3,450	3,457	3,460	3,423	3,698	3,439
19	2020	3,224	3,537	3,417	3,408	3,439	3,448	3,444	3,473	3,437	3,657	3,428
20	2021	3,126	3,670	3,429	3,427	3,478	3,450	3,464	3,520	3,485	3,373	3,454

Table 6

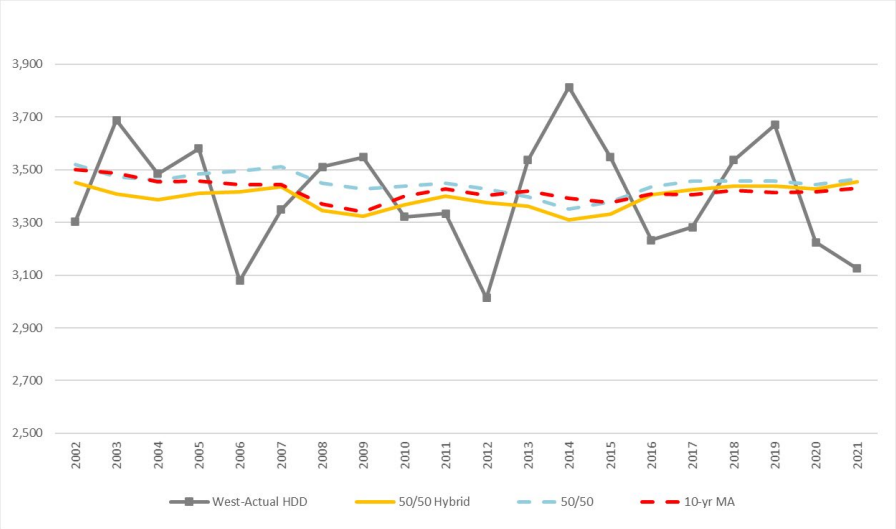
West Weather Zone: Out-of-Sample Forecast Performance (2002 to 2021)

Line No.	Methodology	Accuracy				Symmetry				Stability			
		MAPE		RMSPE		MPE		Percent Over Forecast		Standard Deviation		Score (1)	Overall Rank
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Naïve	9.5%	10	10.8%	10	1.1%	5	55%	7	210	10	42	9
2	10-yr MA	5.6%	3	6.5%	2	0.7%	3	50%	1	38	1	10	1
3	20-yr MA	5.6%	2	6.8%	3	1.9%	7	55%	7	48	5	24	5
4	20-yr Trend	6.3%	7	7.3%	6	-0.7%	2	50%	1	68	8	24	5
5	30-yr MA	6.1%	6	7.7%	9	3.8%	10	65%	10	67	7	42	9
6	50/50	5.9%	4	7.0%	5	1.6%	6	50%	1	41	2	18	3
7	de Bever	6.4%	8	7.6%	8	2.6%	9	50%	1	47	4	30	7
8	de Bever with Trend	6.4%	9	7.4%	7	1.9%	8	50%	1	51	6	31	8
9	Energy Probe	4.8%	1	5.8%	1	0.8%	4	45%	7	188	9	22	4
10	50/50 Hybrid	6.0%	5	6.8%	4	0.0%	1	50%	1	43	3	14	2

Note:

(1) Score equals the sum of (b)+(d)+(f)+(h)+(j).

Figure 3: West Weather Zone: Actual vs Fitted/Forecast HDD



22. The 10-yr MA method produces superior results where symmetry and stability are concerned for the 2002 to 2021 period. In regard to accuracy, the 10-yr MA and Energy Probe methods score closely. Based on the overall ranking, the 10-yr MA is best suited to the historical data set and ranks best given its results on the basis of accuracy, symmetry and stability. Therefore, the Company is proposing to continue to use the 10-yr MA methodology for determining future degree days for West weather zone.

3.4. South Weather Zone

23. Table 7 provides the South weather zone's out of sample degree day forecast produced by each forecasting method. Table 8 summarizes the relative performance of these forecasts against actual weather observations by considering the most recent 20-year period. Figure 4 shows actual degree day data versus forecast degree days for the top three forecasting methodologies as determined by the evaluation criteria.

Table 7
South Weather Zone: Actual and Forecast Heating Degree Days ('out-of-sample'), 2002 to 2021

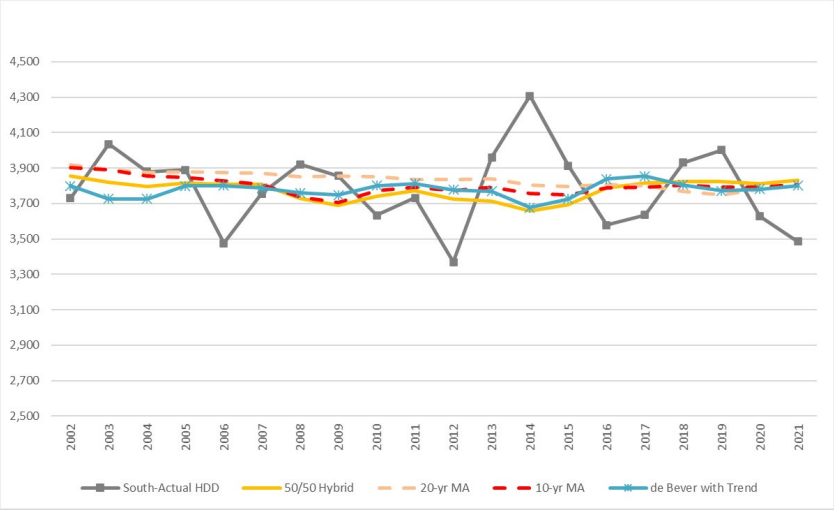
Line No.	Calendar Year	Actual	Naïve	10-yr MA	20-yr MA	20-yr Trend	30-yr MA	50/50	de Bever	de Bever with Trend	Energy Probe	50/50 Hybrid
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	2002	3,730	3,856	3,902	3,918	3,805	3,995	3,900	3,923	3,800	3,762	3,854
2	2003	4,036	3,536	3,889	3,890	3,747	3,980	3,863	3,844	3,726	3,758	3,818
3	2004	3,879	3,730	3,856	3,875	3,732	3,958	3,845	3,822	3,725	3,845	3,794
4	2005	3,890	4,036	3,847	3,877	3,781	3,966	3,873	3,923	3,799	3,895	3,814
5	2006	3,476	3,879	3,826	3,873	3,793	3,959	3,876	3,936	3,800	3,872	3,810
6	2007	3,755	3,890	3,809	3,871	3,804	3,958	3,881	3,945	3,787	3,884	3,807
7	2008	3,921	3,476	3,735	3,851	3,720	3,930	3,825	3,877	3,760	3,744	3,728
8	2009	3,857	3,755	3,705	3,855	3,676	3,920	3,798	3,853	3,747	3,710	3,691
9	2010	3,632	3,921	3,771	3,851	3,709	3,904	3,806	3,873	3,801	3,812	3,740
10	2011	3,732	3,857	3,793	3,835	3,753	3,892	3,822	3,886	3,812	3,844	3,773
11	2012	3,370	3,632	3,771	3,837	3,679	3,869	3,774	3,849	3,777	3,811	3,725
12	2013	3,960	3,732	3,791	3,840	3,634	3,857	3,745	3,844	3,769	3,767	3,712
13	2014	4,306	3,370	3,755	3,805	3,562	3,835	3,698	3,737	3,677	3,651	3,658
14	2015	3,914	3,960	3,747	3,797	3,637	3,834	3,735	3,797	3,727	3,734	3,692
15	2016	3,579	4,306	3,790	3,808	3,785	3,845	3,815	3,933	3,837	3,853	3,787
16	2017	3,636	3,914	3,792	3,801	3,841	3,844	3,843	3,953	3,853	3,868	3,816
17	2018	3,932	3,579	3,802	3,769	3,847	3,835	3,841	3,902	3,805	3,802	3,825
18	2019	4,002	3,636	3,791	3,748	3,857	3,833	3,845	3,865	3,771	3,789	3,824
19	2020	3,628	3,932	3,792	3,782	3,832	3,831	3,831	3,875	3,780	3,793	3,812
20	2021	3,486	4,002	3,806	3,800	3,860	3,826	3,843	3,899	3,802	3,790	3,833

Table 8
South Weather Zone: Out-of-Sample Forecast Performance (2002 to 2021)

Line No.	Methodology	Accuracy				Symmetry				Stability			
		MAPE		RMSPE		MPE		Percent Over Forecast		Standard Deviation		Score (1)	Overall Rank
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Naïve	8.5%	10	10.1%	10	0.9%	6	60%	9	220	10	45	10
2	10-yr MA	5.1%	2	6.1%	1	0.7%	4	50%	1	49	3	11	1
3	20-yr MA	5.0%	1	6.3%	2	1.6%	8	50%	1	44	2	14	2
4	20-yr Trend	5.7%	8	6.9%	7	-0.5%	3	50%	1	84	9	28	6
5	30-yr MA	5.6%	5	6.9%	8	3.2%	10	70%	10	59	7	40	9
6	50/50	5.3%	3	6.5%	4	1.3%	7	50%	1	52	4	19	5
7	de Bever	5.9%	9	7.4%	9	2.8%	9	55%	7	54	5	39	8
8	de Bever with Trend	5.6%	6	6.6%	5	0.2%	2	50%	1	42	1	15	3
9	Energy Probe	5.7%	7	6.9%	6	0.7%	5	55%	7	63	8	33	7
10	50/50 Hybrid	5.4%	4	6.4%	3	0.1%	1	50%	1	57	6	15	3

Note:
(1) Score equals the sum of (b)+(d)+(f)+(h)+(j).

Figure 4: South Weather Zone: Actual vs Fitted/Forecast HDD



24. In regard to symmetry and stability, the 10-yr MA and de-Bever with Trend methods score closely. For accuracy, 10-yr MA method produces superior results. Based on the overall ranking, the 10-yr MA is best suited to the historical data set and ranks best given its results on the basis of accuracy, symmetry and stability. Therefore, the Company is proposing to use the 10-yr MA methodology for determining future degree days for the South weather zone.

3.5. North Weather Zone

25. Table 9 provides the North weather zone's out of sample degree day forecast produced by each forecasting method. Table 10 summarizes the relative performance of these forecasts against actual weather observations by considering the most recent 20-year period. Figure 5 shows actual degree day data versus forecast degree days for the top three methodologies as determined by the evaluation criteria.

Table 9
North Weather Zone: Actual and Forecast Heating Degree Days ('out-of-sample'), 2002 to 2021

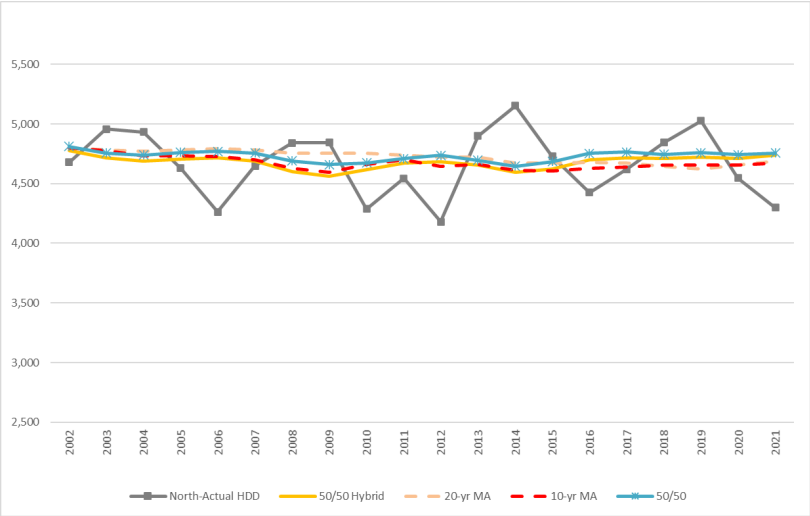
Line No.	Calendar Year	Actual	Naïve	10-yr MA	20-yr MA	20-yr Trend	30-yr MA	50/50	de Bever	de Bever with Trend	Energy Probe	50/50 Hybrid
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	2002	4,679	4,845	4,798	4,801	4,751	4,874	4,812	4,797	4,741	4,734	4,774
2	2003	4,956	4,374	4,778	4,780	4,659	4,854	4,756	4,719	4,614	4,647	4,718
3	2004	4,934	4,679	4,733	4,773	4,642	4,835	4,739	4,750	4,629	4,738	4,688
4	2005	4,630	4,956	4,734	4,784	4,677	4,845	4,761	4,829	4,726	4,824	4,705
5	2006	4,262	4,934	4,730	4,796	4,697	4,842	4,770	4,866	4,756	4,834	4,714
6	2007	4,648	4,630	4,701	4,781	4,679	4,835	4,757	4,838	4,738	4,801	4,690
7	2008	4,842	4,262	4,629	4,753	4,574	4,804	4,689	4,767	4,682	4,655	4,601
8	2009	4,845	4,648	4,594	4,757	4,527	4,794	4,661	4,748	4,671	4,631	4,561
9	2010	4,288	4,842	4,661	4,752	4,568	4,781	4,674	4,769	4,701	4,705	4,615
10	2011	4,544	4,845	4,702	4,737	4,641	4,778	4,710	4,796	4,731	4,749	4,672
11	2012	4,181	4,288	4,646	4,722	4,725	4,749	4,737	4,789	4,735	4,751	4,685
12	2013	4,901	4,544	4,663	4,720	4,652	4,741	4,696	4,786	4,707	4,705	4,657
13	2014	5,152	4,181	4,613	4,673	4,573	4,720	4,646	4,684	4,630	4,638	4,593
14	2015	4,728	4,901	4,608	4,671	4,643	4,725	4,684	4,744	4,666	4,661	4,625
15	2016	4,427	5,152	4,629	4,680	4,769	4,740	4,755	4,822	4,759	4,684	4,699
16	2017	4,622	4,728	4,639	4,670	4,795	4,734	4,764	4,830	4,764	4,717	4,717
17	2018	4,843	4,427	4,656	4,642	4,768	4,720	4,744	4,797	4,726	4,703	4,712
18	2019	5,027	4,622	4,653	4,623	4,794	4,722	4,758	4,789	4,709	4,775	4,724
19	2020	4,546	4,843	4,653	4,657	4,765	4,719	4,742	4,797	4,722	4,760	4,709
20	2021	4,300	5,027	4,671	4,686	4,800	4,715	4,758	4,827	4,751	4,694	4,736

Table 10
North Weather Zone: Out-of-Sample Forecast Performance (2002 to 2021)

Line No.	Methodology	Accuracy				Symmetry				Stability		Score (1)	Overall Rank
		MAPE		RMSPE		MPE		Percent Over Forecast		Standard Deviation			
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Naïve	8.5%	10	10.0%	10	0.9%	4	55%	1	272	10	35	9
2	10-yr MA	5.1%	1	6.0%	1	0.5%	1	55%	1	56	7	11	1
3	20-yr MA	5.2%	2	6.4%	3	1.5%	7	55%	1	56	6	19	3
4	20-yr Trend	5.6%	6	6.6%	5	0.7%	3	55%	1	84	9	24	7
5	30-yr MA	5.3%	3	6.6%	6	2.7%	9	55%	1	55	4	23	5
6	50/50	5.4%	5	6.5%	4	1.7%	8	55%	1	43	1	19	3
7	de Bever	5.9%	9	7.2%	9	2.9%	10	60%	10	44	2	40	10
8	de Bever with Trend	5.6%	7	6.7%	7	1.2%	5	55%	1	45	3	23	5
9	Energy Probe	5.7%	8	6.7%	8	1.5%	6	55%	1	60	8	31	8
10	50/50 Hybrid	5.3%	4	6.3%	2	0.6%	2	55%	1	55	5	14	2

Note:
(1) Score equals the sum of (b)+(d)+(f)+(h)+(j).

Figure 5: North Weather Zone: Actual vs Fitted/Forecast HDD



26. The 10-yr MA method produces superior results where accuracy and symmetry are concerned for the 2002 to 2021 period. In regard to stability, the 50/50 method performs better. Based on the overall ranking, the 10-yr MA is best suited to the historical data set and ranks best given its results on the basis of accuracy, symmetry and stability. Therefore, the Company is proposing to use the 10-yr MA methodology for determining future degree days for North weather zone.

4. 2024 Degree Day Forecast

27. The 2024 degree day forecast incorporates actual data up to and including 2021 actual degree days. The 50/50 Hybrid for the Central weather zone and 10-yr MA methods for the East, West, South and North weather zones were used to develop the 2024 Test Year degree day forecast. The 2024 Test Year degree day forecasts for base temperature 18°C and 15°C are provided in Table 11. A description of how the 2024 Test Year HDDs are converted from base temperature 18°C to base temperature 15°C is provided at Exhibit 3, Tab 2, Schedule 5, Attachment 1.

Table 11
Forecast of 2024 Heating Degree Days

Line No.	Weather Zone	Methodology	Forecast (1) (a)	Forecast (2) (b)
1	Central	50/50 Hybrid	3,560	2,764
2	East	10-yr MA	4,338	3,479
3	West	10-yr MA	3,398	2,605
4	South	10-yr MA	3,781	2,941
5	North	10-yr MA	4,673	3,746

Notes:
(1) HDD forecast based on base temperature of 18°C.
(2) HDD forecast based on base temperature of 15°C.

28. The degree day forecast for the Central weather zone was prepared using the 50/50 Hybrid method. Table 12 shows the actual gas supply degree day data for the Central weather zone and the resultant degree day forecast.

Table 12
Central Weather Zone: Actual and Forecast Heating Degree Day

Line No.	Calendar Year	Actual (1)
		(a)
1	2002	3,597
2	2003	3,949
3	2004	3,766
4	2005	3,750
5	2006	3,355
6	2007	3,659
7	2008	3,802
8	2009	3,767
9	2010	3,466
10	2011	3,597
11	2012	3,194
12	2013	3,746
13	2014	4,044
14	2015	3,710
15	2016	3,412
16	2017	3,499
17	2018	3,728
18	2019	3,887
19	2020	3,459
20	2021	3,301
21	2024 Forecast (10-yr MA)	3,598
22	2024 Forecast (20-yr Trend) (2)	3,523
23	2024 Forecast (50/50 Hybrid) (3)	3,560

Notes:
(1) Actual heating degree day observations are from an independent weather service (DTN Meteorlogix); CYYZ station.
(2) Calculated using the 20-yr Trend regression equation: Central Gas Supply Degree Day= 3,728.1-8.9341*TREND. The trend variable takes the values of 1 through 20 for each of the years from 2002 to 2021. The value of 23 is used for 2024 to generate 2024 degree day forecast.
(3) Average of 10-yr MA and 20-yr Trend forecasts.

29. The degree day forecast for the East, West, South and North weather zones were prepared using the 10-yr MA method. Table 13 displays the actual gas supply

degree day data for the relative weather zones and the resultant degree day forecasts.

Table 13
East, West, South and North Weather Zones: Actual and Forecast Heating Degree Days

Line No.	Calendar Year	East (1)	West (2)	South (3)	North (4)
		(a)	(b)	(c)	(d)
1	2012	4,048	3,013	3,370	4,181
2	2013	4,484	3,537	3,960	4,901
3	2014	4,552	3,814	4,306	5,152
4	2015	4,397	3,548	3,914	4,728
5	2016	4,231	3,233	3,579	4,427
6	2017	4,318	3,282	3,636	4,622
7	2018	4,459	3,537	3,932	4,843
8	2019	4,682	3,670	4,002	5,027
9	2020	4,200	3,224	3,628	4,546
10	2021	4,009	3,126	3,486	4,300
11	2024 Forecast (10-yr MA)	4,338	3,398	3,781	4,673

Notes:
(1) Actual data from an independent weather service (DTN Meteorlogix); CYOW station.
(2) Actual data from an independent weather service (DTN Meteorlogix); CYSN station.
(3) Actual data from an independent weather service (DTN Meteorlogix); CYXU station.
(4) Actual data is a weighted average that is calculated from multiple weather stations from an independent weather service (DTN Meteorlogix): Sudbury (CYSB), Kingston (CYGK), Thunder Bay (CYQT), Sault Ste. Marie (KCIU), Muskoka (CYQA), International Falls/Fort Frances (KINL).

5. Summary

30. Enbridge Gas is requesting OEB approval to use 50/50 Hybrid approach for the Central weather zone and 10-yr MA approach for the remaining weather zones based on the results from its evaluation framework. Enbridge Gas believes that these forecasting methods produce the best degree day forecast for each weather zone. The 2024 Test Year degree day forecast using these methodologies for the Central, East, West, South and North weather zones respectively, are summarized in Table 11.

ECONOMIC AND FINANCIAL ASSUMPTIONS

GILMER BASHUALDO HILARIO, MANAGER ECONOMIC EVALUATION & FORECAST

CATHERINE HO, MANAGER FINANCIAL PLANNING & ANALYSIS

1. The purpose of this evidence is to provide the major economic and financial assumptions used in Enbridge Gas's forecasts in this Application. Enbridge Gas uses consensus forecasts[1] for the economic and financial indicators and commodity prices provided in the tables. The forecasters vary depending on the indicator and are a mix of financial institutions, energy consultants, and organizations such as the Canada Mortgage and Housing Corporation (CMHC) and the Conference Board of Canada (CBoC). Economic indicators forecast by weather zone are derived from available statistics specific to each region.

2. The historical data and the forecast contained in this Exhibit are used throughout the Application in other exhibits.

[1] Consensus forecast refers to the averaging of a panel of independent forecasts available for a specific period.

Table 1
Economic Outlook: Canada & Ontario (1)

Line No.	Variable	2018 Actual (a)	2019 Actual (b)	2020 Actual (c)	2021 Actual (d)	2022 Estimate (e)	2023 Bridge Year (f)	2024 Test Year (g)
	Canada							
1	Real GDP (% change)	3.2%	1.9%	(4.8%)	4.6%	3.8%	3.1%	1.8%
2	Consumer Prices (% change)	2.3%	1.9%	0.7%	3.4%	3.9%	2.4%	2.2%
3	GDP IPI FDD (% change) (2)	1.6%	1.8%	1.7%	3.9%	3.9%	2.4%	2.2%
4	Average Hourly Earnings (% change) (3)	2.2%	2.6%	3.6%	2.8%	3.1%	3.2%	NA
	Ontario							
5	Real GDP (% change)	3.4%	2.0%	(5.0%)	4.3%	4.1%	2.9%	1.8%
6	Consumer Prices (% change)	2.4%	1.9%	0.6%	3.5%	4.2%	2.5%	2.0%
7	Housing Starts (000's)	78.7	69.0	81.3	100.6	87.1	80.9	80.7
8	Unemployment Rate (%)	5.7%	5.6%	9.3%	8.3%	6.0%	5.6%	5.5%
9	Employment Growth (% change)	1.8%	2.7%	(4.3%)	4.2%	3.7%	1.7%	1.5%
10	Average Hourly Earnings (% change) (3)	2.3%	2.8%	3.4%	2.8%	3.1%	3.2%	NA
11	Real Residential Natural gas price (% change)	(6.8%)	(5.9%)	8.9%	10.4%	7.7%	2.0%	1.3%
12	Real Commercial Natural Gas Price (% change)	(9.1%)	(7.7%)	10.4%	14.4%	7.8%	2.1%	1.2%
13	Carbon tax ($/tonne)		20.0	30.0	40.0	50.0	65.0	80.0
14	Henry Hub prices (% change)	1.0%	(13.8%)	(16.6%)	65.6%	12.1%	(14.6%)	(16.6%)

Notes:

(1) Based on the forecasts available in Q1 2022.
The 2022-2024 forecasts have not been adjusted to reflect the changes in inflation that have occurred since Q1 2022. As at September 2022, for instance:

- Canadian CPI has changed to 7.0%, 3.5% and 2.3% for 2022, 2023 and 2024, respectively
- GDP IPI FDD has changed to 5.55% for 2022 (based on the average of the most recent 4 quarters available from StatsCanada)
- Ontario CPI has changed to 6.8%, 3.1% and 2.1% for 2022, 2023 and 2024, respectively

(2) Consensus CPI forecast was used as a proxy since there is no consensus GDPIPIFDD forecast available.

(3) Forecast for 2024 is not available in any sources used for consensus forecast.

Table 2
Economic Outlook: Weather Zones

Line No.	Particulars	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Central							
1	Employment Growth (% change)	2.2%	3.1%	(4.2%)	4.1%	6.0%	2.4%	2.1%
2	Vintage (1)	0.4767	0.4720	0.4677	0.4638	0.4591	0.4548	0.4508
3	Heating Degree Days (2)	3,007	3,116	2,702	2,603	2,774	2,712	2,764
	East							
4	Employment Growth (% change)	2.0%	4.5%	(4.0%)	4.9%	1.2%	1.5%	1.3%
5	Vintage (1)	0.3362	0.3297	0.3229	0.3158	0.3104	0.3050	0.2996
6	Heating Degree Days (2)	3,697	3,859	3,393	3,253	3,383	3,347	3,479
	West							
7	Employment Growth (% change)	2.2%	(0.9%)	(5.6%)	2.7%	4.7%	0.8%	0.7%
8	Vintage (1)	0.7056	0.6982	0.6873	0.6788	0.6707	0.6625	0.6547
9	Heating Degree Days (2)	2,813	2,906	2,481	2,437	2,691	2,670	2,605
	South							
10	Employment Growth (% change)	0.9%	3.1%	(4.9%)	6.1%	2.0%	1.7%	1.5%
11	Vintage (1)	0.5253	0.5186	0.5122	0.5066	0.5015	0.4964	0.4915
12	Heating Degree Days (2)	3,112	3,148	2,788	2,707	2,916	2,867	2,941
	North							
13	Employment Growth (% change)	1.0%	5.6%	(5.3%)	1.3%	2.2%	0.2%	0.1%
14	Vintage (1)	0.5089	0.5023	0.4965	0.4920	0.4879	0.4842	0.4808
15	Heating Degree Days (2)	4,237	4,347	3,897	3,671	3,998	3,930	3,746

Notes:
(1) Exhibit 3, Tab 2, Schedule 5, Section 3.
(2) Based on 15°C.

Table 3
Financial Outlook

Line No.	Particulars	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Government of Canada benchmark bond yields - 10 year (1)	1.79%	2.26%	1.55%	0.72%	1.40%	3.00%	3.10%	2.90%
2	10 Year - EGI Implied Linear Regression Credit Spread						1.03%	1.06%	1.07%
3	Coupons EGI - 10 Year						4.00%	4.20%	4.00%
4	Issuance Cost						0.05%	0.05%	0.05%
5	Hedge Unwinds						(0.73%)	(0.97%)	0.00%
6	10 Year - Effective Rates						3.32%	3.28%	4.05%
7	Government of Canada benchmark bond yields - 30 year (1)	2.28%	2.33%	1.77%	1.19%	1.88%	3.00%	3.10%	3.00%
8	30 Year - EGI Implied Linear Regression Credit Spread						-	1.46%	1.47%
9	Coupons EGI- 30 Year						-	4.60%	4.50%
10	Issuance Cost						-	0.02%	0.02%
11	30 Year - Effective Rates						-	4.62%	4.52%
12	Short Term-3 Month CDOR (1)	1.15%	1.89%	2.03%	0.87%	0.45%	2.30%	2.90%	2.90%
13	Spread						0.10%	0.10%	0.10%
14	3 Month CDOR - Effective rates						2.40%	3.00%	3.00%
15	Exchange rate (USD/CAD)	1.30	1.30	1.33	1.34	1.25	1.25	1.25	1.25

Note:
(1) Consensus forecast based on Q2 2022 forecast from various banks.

GENERAL SERVICE AVERAGE USE

GILMER BASHUALDO-HILARIO, MANAGER ECONOMIC EVALUATION & FORECAST

HULYA SAYYAN, SPECIALIST ECONOMIC EVALUATION & FORECAST

1. The purpose of this evidence is to present and request approval for the proposed harmonized average use[1] forecast methodology. The average use forecast is used for annual rate adjustment purposes and also in determining the natural gas volume forecasts for general service customers, which underpins the Company's budget process, Gas Supply Plan, and storage and transportation allocations.

2. This evidence also includes analysis which outlines Enbridge Gas's proposal to change the base temperature used to calculate heating degree days and Enbridge Gas's proposed normalization method which can be found at Attachments 1 and 2 respectively.

3. This evidence is organized as follows:
    1. Background
    2. Proposed Harmonized Methodology
    3. Residential Average Use
    4. Non-Residential Average Use
    5. Adjustments to Average Use Forecast
    6. Summary

[1] Referred to as NAC (Normalized Average Consumption) in Union applications.

1. Background

4. The current EGD rate zone average use forecast methodology was developed as part of its 2001 Rates proceeding[2]. This methodology forecasts average use[3] using a mix of multiple regression and error correction model (ECM) econometric techniques[4]. The average use forecasts were completed at the revenue class level, then aggregated to the sector (residential, apartment, commercial and industrial) level and rate class (Rate 1 and Rate 6) level. The forecast was determined using the annual billed data and the historical relationships between the average use and a set of driver variables (weather[5], gas price, economic variables, etc.).

5. The current Union rate zones average use forecast methodology was developed as part of its 2004 Rates proceeding[6]. For the rate setting purpose, two different methodologies were used to forecast average use in the test year and the following years.

    a) The average use forecasts for the test year were determined using multiple regression analysis for the general service rate classes[7]. The Union process relied on two equations consisting of the average use and the volume forecast for most sectors. It then calculated the average to determine the final forecast. The forecast was determined using the monthly calendarized data and the historical relationships between the average use and a set of driver variables (weather[8], gas price, economic variables, etc.).

[2] RP-2000-0040.
[3] Applicable to revenue class 20 for residential (Rate 1) and revenue classes 12, 20, 48 for non-residential (Rate 6).
[4] EB-2011-0354, Exhibit C2, Tab 2, Schedule 1.
[5] Heating degree day (HDD) based on OEB-approved base temperatures for each weather zone (14.8°C, 14.6°C and 15.3°C for Central, East and West respectively).and adjusted for billing cycles.
[6] RP-2003-0063.
[7] EB-2011-0210, Exhibit C1, Tab 1.
[8] Calendar month heating degree day (HDD) based on base temperature of 18°C.

b) Following the test year, the forecasts were determined using the most recent actual average use available, normalized to the forecast year's degree day.

6. The OEB allowed Enbridge Gas to continue to use the existing OEB-approved methodologies for the 2019 to 2023 deferred rebasing term and required Enbridge Gas to develop a proposal of a single forecast methodology to be filed with its next rebasing application.[9] In the Settlement Proposal for 2020 Rates[10], Enbridge Gas also agreed that as part of its rebasing application, it would file a study (which may be an internal study or a third party study) examining the various available methodologies for average use, including those currently in use.

7. Enbridge Gas engaged Guidehouse Canada Ltd. (Guidehouse) to complete a natural gas volume forecast approach comparative review study. This study entitled Natural Gas Volume Forecasting Benchmarking Study (Guidehouse Study) is provided at Exhibit 3, Tab 2, Schedule 2. The Guidehouse Study outlines Guidehouse's understanding of how comparable utility organizations forecast their natural gas volumes, based on publicly available literature and interviews. The Guidehouse Study indicates that Enbridge Gas's proposed average use forecast methodology is consistent with the range of approaches used by the comparator utilities and may be considered standard industry practice as provided at Exhibit 3, Tab 2, Schedule 2, Section 3.4 and Appendix A.

2. Proposed Harmonized Methodology

8. Enbridge Gas's harmonized average use forecast methodology was developed by considering several factors including data type and frequency, forecast

[9] EB-2017-0306/EB-2017-0307, OEB Decision and Order, August 30,2018.
[10] EB-2019-0194, Exhibit N1, Tab 1, Schedule 1, p.9.

methodology and model specification and variables. These components are described in further detail below.

2.1. Data Type and Frequency

9. Enbridge Gas's average use data harmonization process required decisions about selecting data type (billed vs. calendarized) and data frequency (annual vs. monthly). Unavailability of the historical meter reading heating degree days for the Union rate zones made using the calendarized data an optimal choice for Enbridge Gas. Therefore, the EGD rate zone data has been calendarized[11] to align with the Union rate zones data. Regarding data frequency, Enbridge Gas preferred to use monthly data versus annual. One of the advantages of using monthly data is that it allows estimates of monthly weather coefficients to be derived for weather-sensitive months. These weather coefficients can then be used to normalize actual consumption. Data with a monthly frequency also increases the number of observations (and degrees of freedom[12]), which is desirable when performing statistical analysis. Only annual results are summarized in this evidence, monthly results are provided at Attachment 3.

2.2. Forecast Methodology

10. The objective of the new methodology is to generate a harmonized and objective average use forecast. Enbridge Gas tested both the EGD and Union rate zones' methods and also reviewed alternative methods used by other utilities.

11. Enbridge Gas's analysis indicated that the ECM methodology is unsuitable since the statistical pre-conditions for using this methodology are not satisfied with the

[11] Billed plus unbilled consumption for the related month minus the previous month's unbilled consumption. The data is available for January 2006-December 2021.
[12] Calculated as 'number of observations - number of coefficients to be determined-1'.

data that is available.[13] However, results based on multiple regression analysis were found to be statistically appropriate. The Guidehouse Study indicates that regression analysis is widely used by comparators for forecasting average use and volumes. Therefore, Enbridge Gas is proposing a regression methodology to determine its average use forecast.

2.3. Model Specification and Variables

12. The regression model's specification and driver variables were selected based on model statistics and an objective criterion – to minimize the in-sample and out-of-sample forecast error. Enbridge Gas tested different model specifications[14] and numerous driver variables to determine the models proposed in this Exhibit. A stepwise regression approach was used for the driver variable selection. The variable was included in the model when it was statistically significant, and it improved the model's results. Otherwise, it was excluded from the model. Consequently, the structures of the models for each weather zone are generally the same. However, independent variables vary depending on which variables are included in each model.

13. The heating degree days were included in all models due to the strong relationship between average use and temperature. The harmonized base temperature of 15°C[15] to calculate Enbridge Gas's degree days was determined based on the analysis provided at Attachment 1. The proposed base temperature for determining

[13] If there is no cointegration between variables, an ECM is not appropriate. To test cointegration, the variables should be non-stationary (has unit root) and should be integrated in the same order.
[14] Linear (all variables are in linear form), log-linear (the dependent variable is transformed to logarithms, independent variables are linear), log-log (the dependent variable, as well as all explanatory variables, are transformed to logarithms).
[15] The base temperature is the outdoor temperature that separates when the building needs heating from when it does not. If the outdoor temperature is higher than the base temperature, the building's heating system should not have to operate to maintain the desired indoor temperature. If the outdoor temperature is at or below the base temperature, the building needs heat.

degree days is consistent with the OEB-approved approach used by the EGD rate zone for its 1995 Rates Application and approach used by some of the other North American utilities[16]. Based on the results of this analysis, using 15°C as the base temperature is more appropriate than using a traditional base of 18°C.

14. Enbridge Gas's residential and non-residential average uses were estimated for each weather zone (Central, East, West, South, North) using the model specification and driver variables that provided the best fit. Then, the average use forecasts by rate classes (Rate 1, Rate 6, Rate M1, Rate M2, Rate 01, Rate 10) and sector (residential, commercial, industrial) were determined using historical proportions.

15. The following sections explain Enbridge Gas's residential and non-residential average use historical trends, forecasting models and driver variables, as well as the forecast and the forecast accuracy results for each of the models.

3. Residential Average Use

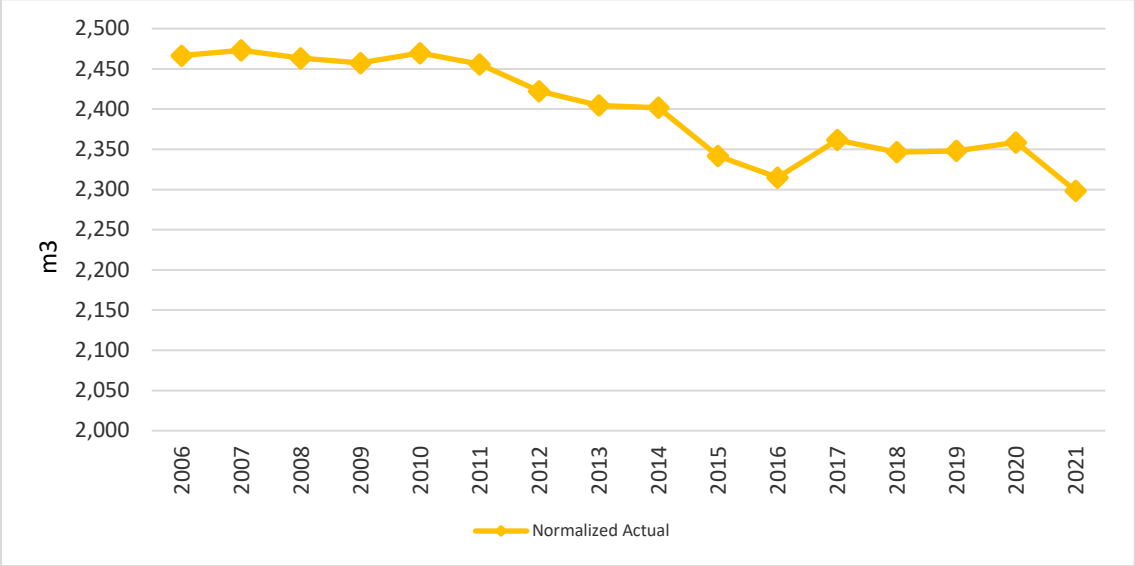
3.1. History and Background

16. Over the past few decades, several factors have contributed to a gradual decrease in residential natural gas usage. These include improved housing construction and increased efficiency in space-heating equipment and other natural gas appliances (efficiency improvements through building code changes), and an increase in natural gas prices. Figure 1 shows a general downward trend in the Enbridge Gas's residential average use since 2006. Over the past fifteen years, Enbridge Gas has

[16] OEB-approved base temperatures used by the EGD rate zone since 1995 were 14.8°C, 14.6°C and 15.3°C for Central, East and West respectively (E.B.R.O. 487, Exhibit C2, Tab 7, Schedule 1). Toronto Hydro uses 10°C (EB-2009-0139, Exhibit K1, Tab 1, Schedule 1).

exhibited an approximate 6.8% decrease in residential average use which corresponds to an average annual decline of approximately 0.5%.

Figure 1: Enbridge Gas: Historical Residential Average Use
(Weather Normalized at 2024 Proposed HDDs)



17. Major updates to the Ontario Building Code (OBC) are traditionally made on a five-year cycle, timed to coincide with the update cycle for the National Building Code, which serves as a basis for the OBC[17]. According to National Resources Canada (NRCan), between 1990 to 2017, energy efficiency in homes improved by 51%.[18]

[17] The National Research Council (NRC) released the 2020 editions of the Canadian Building, Fire, Plumbing and Energy model codes on March 28, 2022. The new code sets out five tiers of energy performance for new buildings. Tiers 2 through 4 calls for efficiency increases of 10, 20, and 40% over the minimum. Tier 5 calls for new construction that is net-zero ready homes.
[18] Government of Canada. Energy Use in the Residential Sector. Natural Resources Canada. https://oee.nrcan.gc.ca/publications/statistics/trends/2017/residential.cfm

Ontario homes built after 2017 are 15% more efficient than the new homes built between 2012 to 2016.[19]

18. Natural gas prices may have also contributed to the decrease in natural gas consumption. Natural gas prices have an important impact on demand. Sharp increases[20] typically cause two primary effects. First, it influences the customer's fuel use behaviours, such as lowering thermostat settings. Second, the price increase influences the customer's decision-making around purchasing more efficient furnaces and appliances. Furthermore, homeowners may also respond by retrofitting older residences to reduce energy consumption. If the price increase makes natural gas less competitive against other fuels or energy sources, customers might also be encouraged to switch away partially or completely from natural gas.

3.2. Proposed Forecast Methodology

19. Enbridge Gas is proposing to use regression analysis to forecast its residential average use for five weather zones (Central, East, West, South and North). Monthly, and calendarized data for the period of 2006 to 2021 is used to estimate the models. The proposed approach is a mix of the methodology currently used for the EGD and Union rate zones' average use forecasts.

20. Table 1 presents the mnemonics used in each of the average use models for each weather zone. Major driver variables in the models include calendar month degree days, vintage variable, and an autoregressive term (AR(1)). The autoregressive

[19] Conservation: Let's Get Serious; Annual Energy Conservation Progress Report 2015/2016, May 2016, p.92, https://www.auditor.on.ca/en/content/reporttopics/envreports/env16/ECO_Conservation_Lets_Get_Serious.pdf

[20] Driven by many factors e.g. supply-side factors, carbon tax increases, economic outlook etc.

term specifies that the average use depends linearly on its previous values and a stochastic term. Driver variable assumptions are shown in the economic and financial outlook in Exhibit 3, Tab 2, Schedule 4. Natural gas prices and other economic variables were included when estimating the models but were not statistically significant in the residential models[21], therefore they were excluded.

Table 1
Residential Models Mnemonics

Line No.	Mnemonic	Definition
1	C	Constant Term
2	CENTHDD_Month, EASTHDD_Month, WESTHDD_Month, SOUTHDD_Month, NORTHDD_Month	Heating Degree Days for Central, East, West, South and North (based on 15°C) for related Months
3	CENRESVINT	Vintage Variable for the Central Weather Zone
4	EASTRESVINT	Vintage Variable for the East Weather Zone
5	WESRESVINT	Vintage Variable for the West Weather Zone
6	SOUTHRESVINT	Vintage Variable for the South Weather Zone
7	NORTHRESVINT	Vintage Variable for the North Weather Zone
8	AR(p)	pth-order Autoregressive Process Term

21. Residential natural gas consumption is highly correlated with heating degree days. Energy consumption increases as the number of heating degree days increases

[21] Existing studies on natural gas demand commonly report that demand for natural gas is price inelastic in the short term. It was found inelastic based on EGD and Union rate zones' current methodology as well. However, in the long term, prices can become more elastic especially when sharp decreases/increases are experienced. So, not having natural gas price as a driver variable in models can cause average uses to be overestimated (under sharp increases) or underestimated (under sharp decreases).

and falls as the number of heating degree days decreases. Thus, the sign of these variables' coefficients are positive.

22. The vintage variable is constructed for each weather zone to reflect the impact that new homes, associated with more energy-efficient gas equipment and enhanced building codes, have on average use. It is used as a proxy measure of gas space heating and gas water heating efficiency gains, and residential thermal efficiency.[22] Newer homes with improved thermal envelope characteristics and older homes adding insulation and storm windows/doors reduce the amount of gas needed for space heating. Residential thermal efficiency will continue to improve as newer, better-insulated residences account for a larger portion of the housing stock. The vintage variable captures the impact of furnace efficiency and new home thermal efficiency on average use.

23. Vintage is defined as the calendar year in which the customer became a customer (new gas service main date) and is not based on the age of the building. This data includes both new construction and conversion customer additions. As space heating efficiency gains have a greater impact on average use than thermal improvements to homes, customers by vintage are a better variable than the age of the building in terms of explaining the percentage decline in residential average use.

24. Calendar 1992 is used as the reference year for the vintage ratio since the Energy Efficiency Act prohibited the selling of the conventional low-efficiency furnace in

[22] EGD rate zone uses this variable in its current models. Union rate zones have Furnace Efficiency Index (FEI) in the current models. Since FEI does not have enough data for all weather zones yet, the EGD rate zone approach is adopted for the Union rate zones.

January 1992.[23] Consequently, this ratio will capture the increasing market share of both mid-efficiency and high-efficiency furnaces at the expense of the declining market share of conventional furnaces over time. Generally, regions with more robust new construction additions experience a sharper decline in the ratio than established regions. As more new customers are added to the system, the declining ratio leads to lower average use over time.[24] Thus, the sign of this variable's coefficient is positive.

25. The autoregressive process term (AR) in the regression models is included to adjust for autocorrelation which occurs when the residuals in a regression equation are serially correlated.

26. Table 2 presents the forecast accuracy statistics for each model. Forecast accuracy is measured by comparing actual un-normalized data with the forecast. The criterion is measured by the root mean square percent errors (RMSPE) and the mean percent error (MPE) for both in-sample and out-of-sample forecasts. In-sample or ex-post means the estimated model incorporates the entire sample's information (up to the most recent actual data, i.e., 2021 here). Out-of-sample or ex-ante means the estimated model comprises information up to 2019 (the year prior to the two-year forecast horizon) and produces a forecast for the next two years, 2020 to 2021. The forecast under these two approaches is measured quantitatively via the statistics against the two years' actual data (2020 to 2021). Specifically, 2020 to 2021 was used as a "hold-out" sample to compute both out-of-

[23] During the 1970s natural gas furnaces averaged about 65% Annual Fuel Utilization Efficiency (AFUE). The Energy Efficiency Act imposed 78% AFUE as a minimum for gas furnaces manufactured after January 1, 1992.
[24] The vintage ratio for 2006 for a specific region as an example is calculated by dividing number of residential customers in this region in 1991 by the number of residential customers in this region in 2006.

sample, and in-sample forecast error statistics since the forecasting horizon for budget purposes is two years.

Table 2
Forecast Errors (1) - MPE & RMSPE

Line No.	Forecast Error Method	Central	East	West	South	North	EGI Residential
		(a)	(b)	(c)	(d)	(e)	(f)
1	In-Sample MPE	-1.27%	-0.67%	-3.16%	-0.16%	-0.87%	-0.93%
2	In-Sample RMSPE	1.57%	0.96%	3.18%	1.43%	1.73%	1.43%
3	Out-of-Sample MPE	-1.94%	-1.04%	-5.68%	-0.43%	-1.46%	-1.53%
4	Out-of-Sample RMSPE	2.12%	1.20%	5.68%	1.44%	2.08%	1.83%

Note:
(1) Calculated based on 2 years (2020 to 2021).

27. In-sample statistics measure the forecast error due to the model's specification.[25] The difference between in-sample and out-of-sample statistics is a proxy[26] measure of forecast error due to the unexpected shock, or structural breaks.

28. The smaller the MPE and RMSPE values in Table 2, the better the model's forecast performance.

29. Attachment 4 provides the estimated models. Actual un-normalized average use data for the period January 2006 to December 2021 was used as a dependent variable (regressand) in the model. The estimated models are used to generate a

[25] Major sources of the uncertainties are (1) model specification (2) forecast error from driver variables like degree days or energy prices (3) structural breaks or unexpected shock. As sources (2) and (3) are not within the Company's control and will inevitably occur regardless of which forecasting methodology is adopted, the objective of the model development is to minimize the controllable source of error, which is the model's specification.
[26] It is a proxy measure since the RMSPE is computed conditional upon the actual data for driver variables.

forecast of average use. The models are also used to determine normalized average use. The main purpose of determining normalized average use is to derive average use such that the weather impact has been removed. Using the estimated coefficients, normalized average use is obtained by replacing the actual monthly degree days in the model with the proposed monthly degree days for 2024 for every year as provided at Exhibit 3, Tab 2, Schedule 3. As a result, year-to-year percentage changes in average use provides a clearer picture of average use trends because weather variability is removed.

30. For the t-tests in the regression equations shown in Attachment 4, the p-values indicate whether the coefficient is significantly different from zero (statistically significant). The p-value is compared to a significance level which is often 0.05 or 0.10, so that if its value is smaller, the null hypothesis is rejected at the 95% or 90% confidence level, respectively.[27] The smaller the p-value, the more strongly the test rejects the null hypothesis, thereby supporting the statistical significance of the coefficient.

31. Although the forecast errors in Table 2 are small in magnitude, forecast accuracy is conditional on validating the assumptions of linear regression.[28] Consequently, the models were subjected to a battery of diagnostic tests besides testing forecast accuracy. These tests were run on the model to check for incorrect functional forms, parameter instability, structural breaks, omitted variables, and randomness of residuals. Test hypotheses for the diagnostic tests run on the models are provided at Attachment 6. Test results can be seen in Table 3. In contrast to the t-

[27] In the circumstances that the variable is included in the model when it is not statistically significant at the 90-95% confidence, it is to improve the model's results or to fix the violation from assumptions.
[28] Also, on driver variable forecast accuracy.

test results shown in regression equations, the null hypotheses tested for the diagnostic tests shows the desired outcomes. In each case, to support the null hypothesis, p-values above at least 0.01 are preferred. Overall, the models have been thoroughly tested and are statistically valid.

Table 3
Diagnostic Test Results

Line No.	Test		Central Weather Zone	East Weather Zone	West Weather Zone	South Weather Zone	North Weather Zone
			(a)	(b)	(c)	(d)	(e)
1	Breusch-Godfrey Serial Correlation LM Test (1)	test statistics	3.13	0.03	0.01	0.11	0.81
2		p-value	0.08	0.87	0.94	0.73	0.37
3	ARCH Test (2)	test statistics	4.07	1.69	1.08	0.58	3.72
4		p-value	0.04	0.19	0.30	0.45	0.05
5	Chow Forecast Test (3)	test statistics	0.59	0.85	0.55	1.55	1.65
6		p-value	0.85	0.60	0.88	0.11	0.08

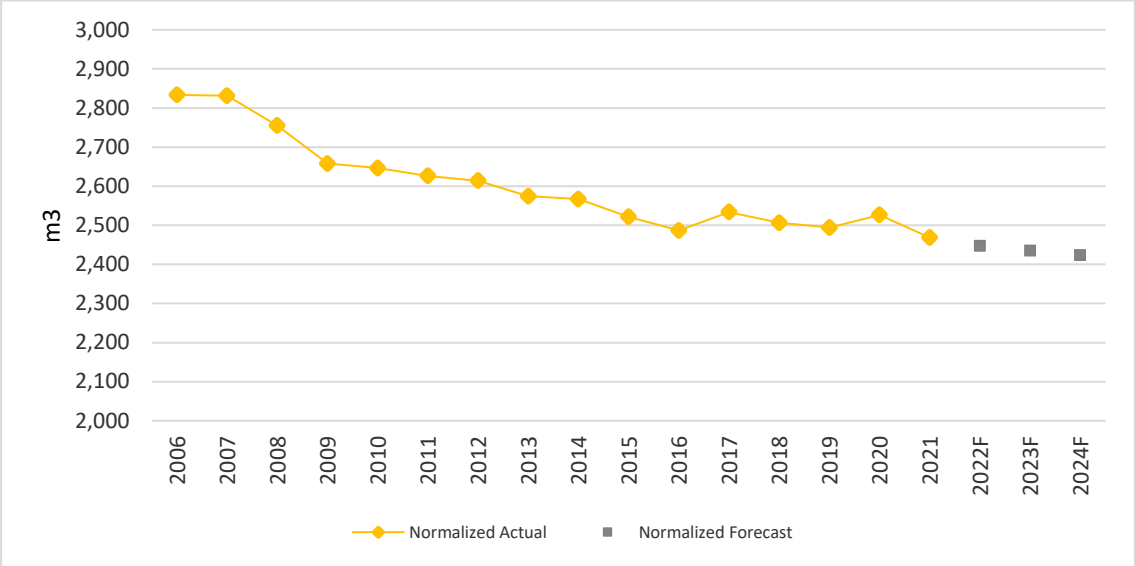
Notes:
(1) Tests serial correlation (autocorrelation) and misspecification of the model.
(2) Tests heteroscedasticity.
(3) Tests homogeneity of data and existence of structural break.

32. Figures 2 to 6 show the normalized actual average use from 2006 to 2021 for each weather zone and the projections for 2022 to 2024. The historical data and the

forecast are normalized to 2024-proposed degree days to eliminate varying weather impacts and to facilitate year-over-year comparisons.[29]

33. The current forecast, which incorporates the latest actual data up to 2021, calls for a continuation of the declining trend for residential average use for each weather zone. Therefore, the forecast is in line with the historical trend. Regions like South, which saw a sharp decline in 2021, are expected to recover in the following years and then continue to their pre-2021 trend during the forecast period.

Figure 2: Central Weather Zone Normalized Residential Average Use (Actual and Forecast)



[29] Normalization of actuals is based on the HDD coefficients in models. HDD coefficients are interpreted as a change in average use (m^3) with 1 HDD change. Therefore, the normalized actual use for a specific month is determined by multiplying this coefficient with the actual vs. forecast HDD difference related to this month. An illustration of the normalization for January 2020 follows Actual Normalized Average use$_{Jan\ 2020}$ = (Actual Degree Day$_{Jan\ 2020}$ - Forecast Degree Day$_{Jan\ 2020}$) * coefficient$_{Jan\ 2020}$).

Figure 3: East Weather Zone Normalized Residential Average Use (Actual and Forecast)

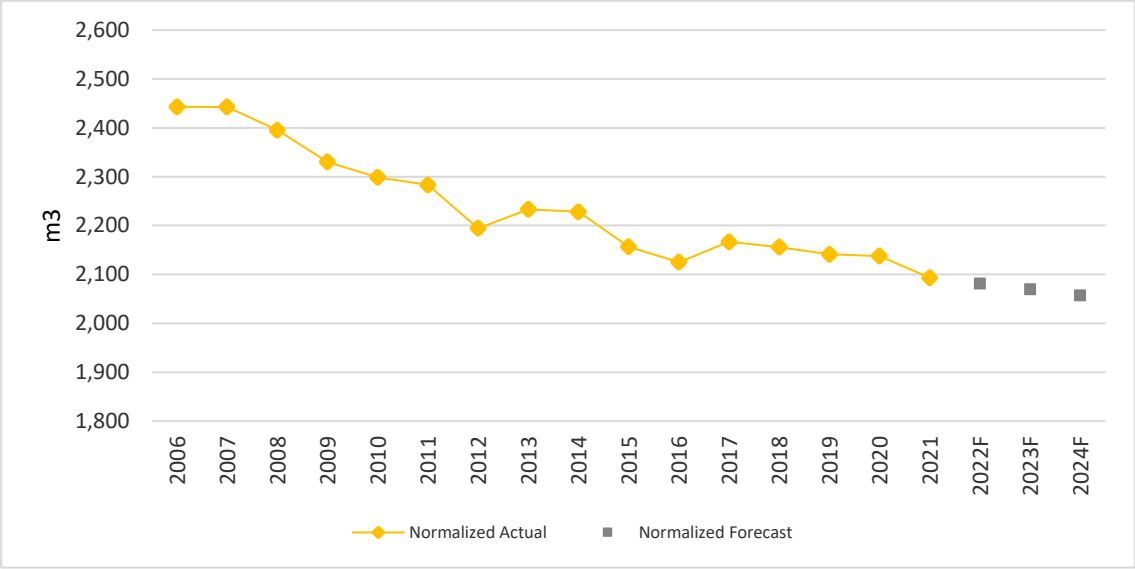


Figure 4: West Weather Zone Normalized Residential Average Use (Actual and Forecast)

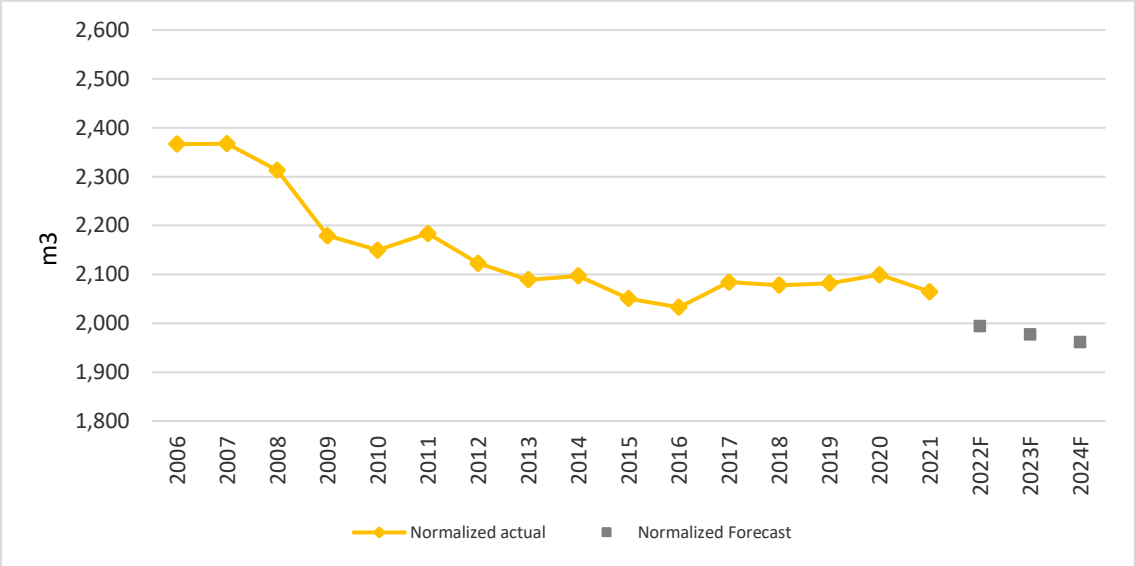


Figure 5: South Weather Zone Normalized Residential Average Use (Actual and Forecast)

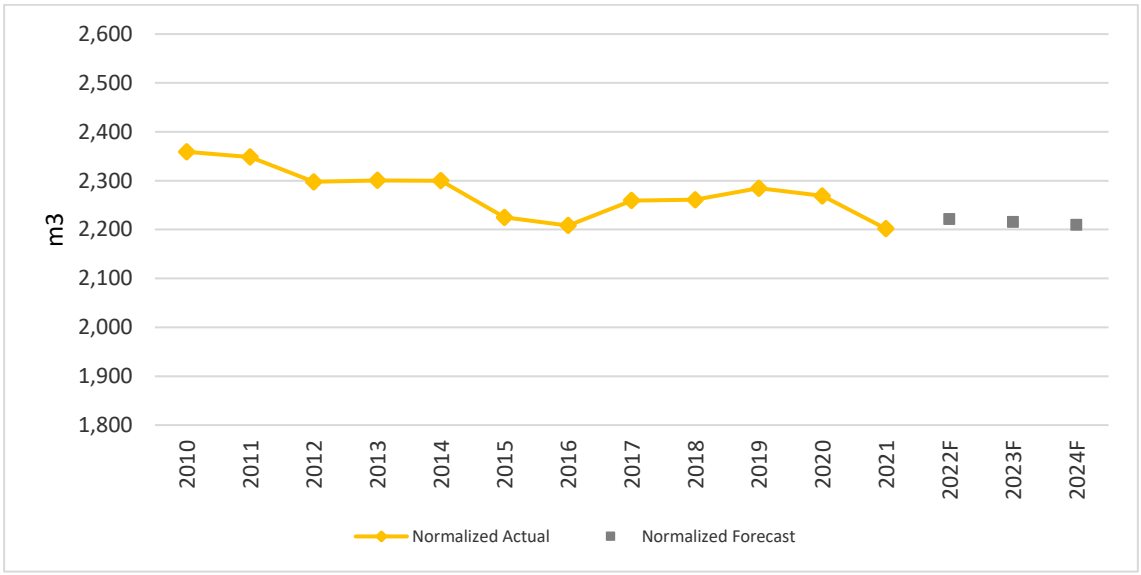
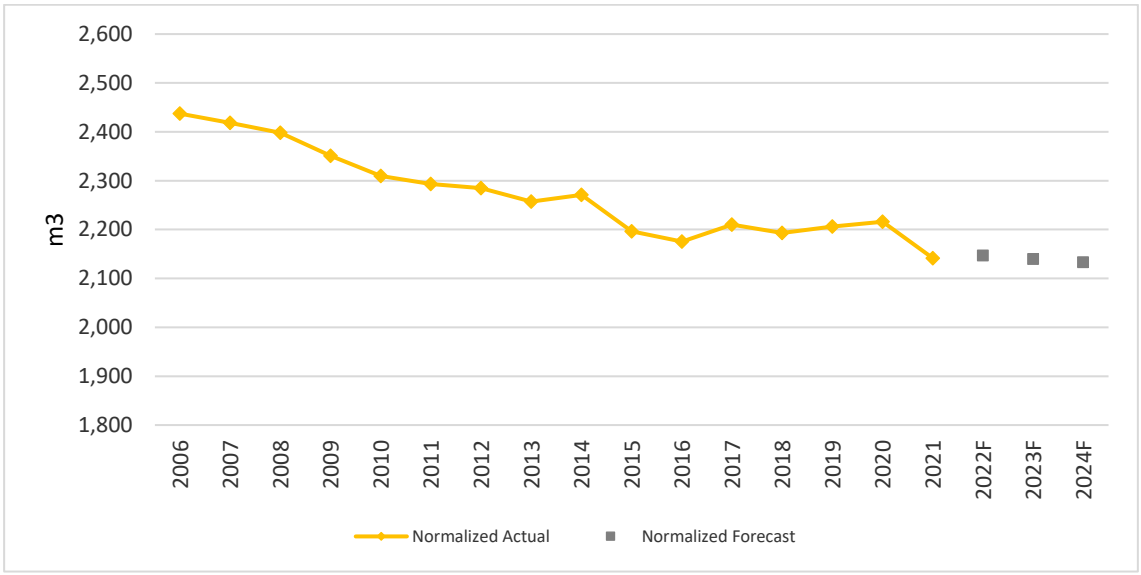


Figure 6: North Weather Zone Normalized Residential Average Use (Actual and Forecast)

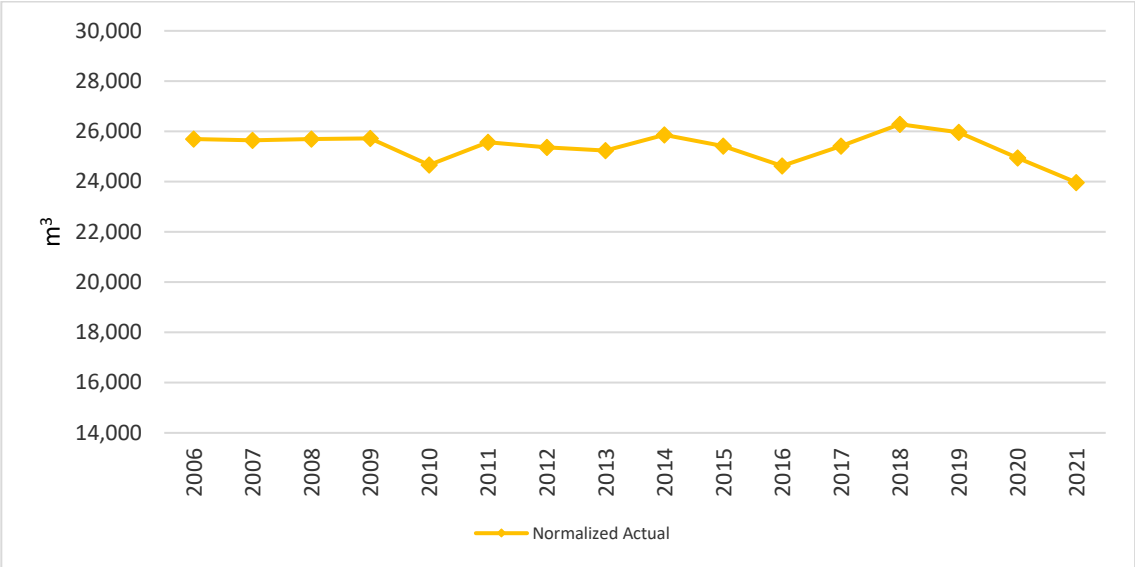


4. Non-Residential Average use

4.1. History and Background

34. Enbridge Gas's non-residential average use has been stable between 2006 to 2019.[30] Figure 7 shows non-residential average use since 2006. Enbridge Gas has experienced an approximate 1.0% increase in non-residential average use from 2006 to 2019 (an average annual increase of 0.1%). However, from 2019 to 2021, non-residential average use declined by 7.7%. This decline was primarily driven by COVID-19.

Figure 7: Enbridge Gas: Historical Non-Residential Average Use (Weather Normalized at 2024 Proposed HDDs)



[30] EGD and Union rate zones combined. EGD rate zone alone had a significant increase from 2006 to 2010 due to customer migration from the contract rates to general service rates.

35. According to NRCan, energy efficiency in the non-residential sector improved by 21% in the commercial and institutional sectors and 12% in the industrial sector for the period of 1990 to 2017.[31]

36. The strength of the economy largely influences non-residential average use. During periods of economic growth, increases in demand for goods and services from the commercial and industrial sectors tend to increase natural gas consumption. "Economy-related increases in consumption can be significant in the industrial sector since this sector uses natural gas as a fuel and a feedstock for making many products such as fertilizer and pharmaceuticals."[32]

4.2. Proposed Forecast Methodology

37. Enbridge Gas is proposing to use regression analysis to forecast its normalized non-residential average use for five weather zones (Central, East, West, South and North). Monthly, and calendarized data for the period of 2006 to 2021 is used to estimate the models. The proposed approach is a mix of the methodology currently used for the EGD and Union rate zones' average use forecasts.

38. Table 4 presents the mnemonics used in each of the non-residential average use models for the five weather zones. Major driver variables in the models include calendar month heating degree days, employment, and real gas prices.[33] Additional

[31] Government of Canada. Energy Use in the Commercial/Institutional Sector. Natural Resources Canada. https://oee.nrcan.gc.ca/publications/statistics/trends/2017/commercial.cfm
Government of Canada. Energy Use in the Institutional Sector. Natural Resources Canada. https://oee.nrcan.gc.ca/publications/statistics/trends/2017/industrial.cfm
[32] U.S. Energy Information Administration. (2021, October, 5). Natural gas explained, Factors affecting natural gas prices. https://www.eia.gov/energyexplained/natural-gas/factors-affecting-natural-gas-prices.php
[33] Carbon tax assumption used in forecast:'$50 per tonne in 2022, $15 increase each year starting in 2023'. To escalate gas supply commodity charges, the Consensus Henry Hub forecast is used.

variables (trend variable, the autoregressive term (AR(1)),etc.) were included in the proposed models where they improve the model specification and diagnostic test results. The autoregressive term specifies that the average use depends linearly on its previous values and a stochastic term. Driver variable assumptions are shown in the economic and financial outlook provided at Exhibit 3, Tab 2, Schedule 4. Different economic variables were included when estimating the models but were not statistically significant in the non-residential models,[34] therefore they were excluded.

[34] Existing studies on natural gas demand commonly report that demand for natural gas is price inelastic in the short term. It was found inelastic based on EGD and Union rate zones' current methodology as well. However, in the long-term prices can become more elastic especially when sharp decreases/increases are experienced. So, not having natural gas price as a driver variable in some models can cause average uses to be overestimated (under sharp increases) or underestimated (under sharp decreases).

Table 4
Non-Residential Models Mnemonics

Line No.	Mnemonic	Definition
1	C	Constant Term
2	CENTHDD_Month, EASTHDD_Month, WESTHDD_Month, SOUTHDD_Month, NORTHDD_Month	Heating Degree Days for Central, East, West, South, and North (based on 15°C) for related months
3	REALCENTRALCPG	Real Non-Residential Natural Gas Price for the Central Weather Zone
4	REALERCRPG	Real Non-Residential Natural Gas Price for the East Weather Zone
5	REALWESTCPG	Real Non-Residential Natural Gas Price for the West Weather Zone
6	WESTEMP	West weather zone Employment
7	SOUTHEMP	South weather zone Employment
8	AR(p)	pth-order Autoregressive Process Term
9	TREND	Time Trend
10	JUL, AUG	Dummy variables for July and August non-heating months
11	DUMPRE10	Dummy variable to take into account customer migration between 2006-2010
12	DUMCOVID	Dummy variable to take into account COVID-19, 1 for 06/2020-12/2021, 0 otherwise

39. Table 5 presents the forecast accuracy statistics. The smaller the MPE and RMSPE values in Table 5, the better the model's forecast performance.

Table 5

Forecast Errors (1) - MPE & RMSPE

Line No.	Forecast Error Method	Central	East	West	South	North	EGI Non-Residential
		(a)	(b)	(c)	(d)	(e)	(f)
1	In-Sample MPE	3.99%	2.15%	1.63%	0.12%	0.29%	2.41%
2	In-Sample RMSPE	4.03%	3.19%	2.10%	3.07%	1.76%	2.85%
3	Out-of-Sample MPE	5.04%	2.59%	2.39%	5.87%	4.03%	4.86%
4	Out-of-Sample RMSPE	5.07%	3.49%	2.70%	7.64%	4.99%	5.27%

Note:
(1) Calculated based on 2 years (2020 to 2021).

40. Attachment 5 provides the estimated models. Similar to residential models, actual un-normalized average use data was used as a dependent variable in the model. Using the estimated coefficients, weather normalized average use is obtained by replacing the actual monthly degree days in the model with the forecasted monthly degree days for 2024 for every year as provided at Exhibit 3, Tab 2, Schedule 3. As a result, year-to-year percentage changes in average use better reflect trends because it eliminates weather variability.

41. Table 6 presents the diagnostic test results. Overall, the models are statistically valid.

Table 6
Diagnostic Test Results

Line No.	Test		Central Weather Zone	East Weather Zone	West Weather Zone	South Weather Zone	North Weather Zone
			(a)	(b)	(c)	(d)	(e)
1	Breusch-Godfrey Serial Correlation LM Test (1)	test statistics	1.30	1.28	0.16	1.30	0.10
2		p-value	0.25	0.26	0.69	0.26	0.75
3	ARCH Test (2)	test statistics	1.86	5.08	1.10	0.32	1.77
4		p-value	0.17	0.02	0.30	0.57	0.18
5	Chow Forecast Test (3)	test statistics	0.38	0.50	0.84	2.13	1.59
6		p-value	0.97	0.91	0.61	0.02	0.09

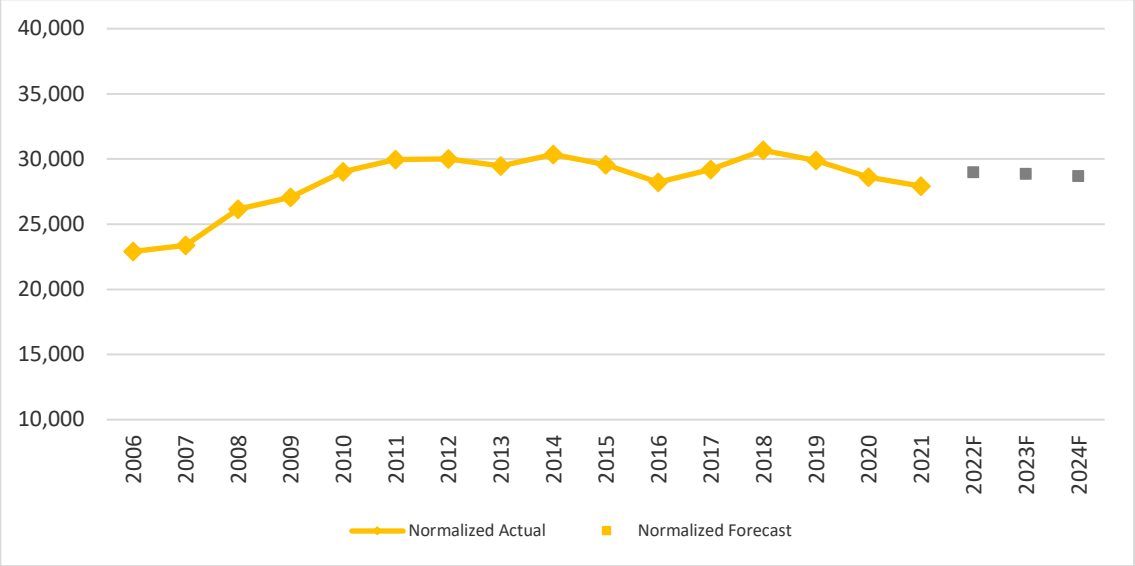
Notes:
(1) Tests serial correlation (autocorrelation) and misspecification of the model.
(2) Tests heteroscedasticity.
(3) Tests homogeneity of data and existence of structural break.

42. Figures 8 to 12 show the normalized actual average use from 2006 to 2021 for each weather zone and the projections for 2022 to 2024. The historical data and the forecast are normalized to 2024 degree days to eliminate varying weather impacts and to facilitate year-over-year comparisons.

43. The current forecast, which incorporates the latest actual data up to 2021, calls for a continuation of the stable trend for non-residential average use for each weather zone. The forecast is in line with the historical trend.

44. Enbridge Gas South and North weather zones have seen a significant change in average use in 2021.[35] Average use in these weather zones is expected to return to the pre-2021 trend in the forecast period.

Figure 8: Central Weather Zone Normalized Non-Residential Average Use (m^3)



[35] Additional variables were included in the proposed models where they improve the model specification and diagnostic test results.

Figure 9: East Weather Zone Normalized Non-Residential Average Use (m^3)

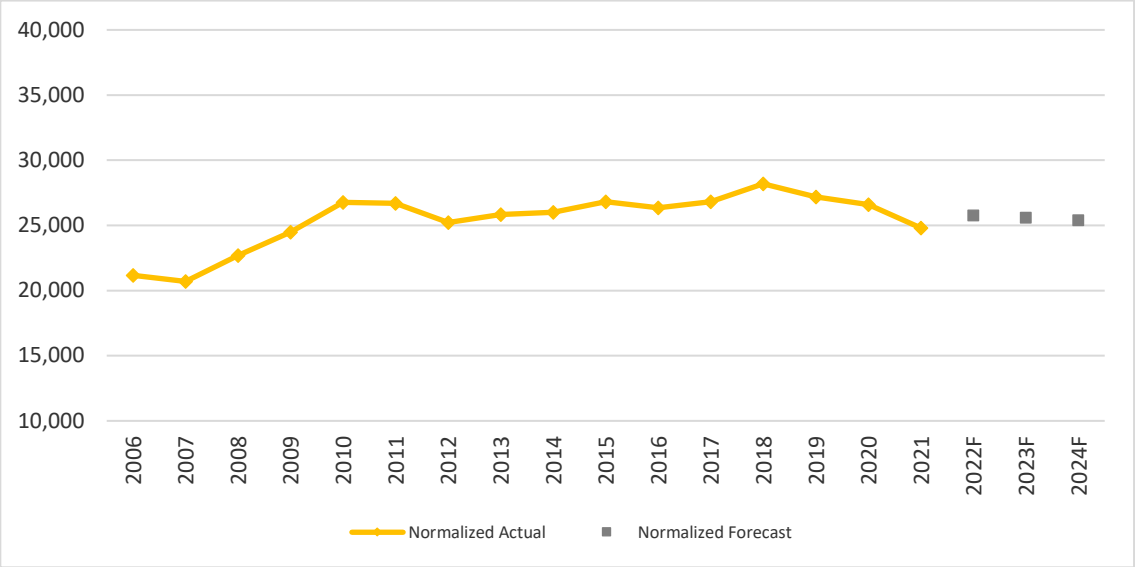


Figure 10: West Weather Zone Normalized Non-Residential Average Use (m^3)

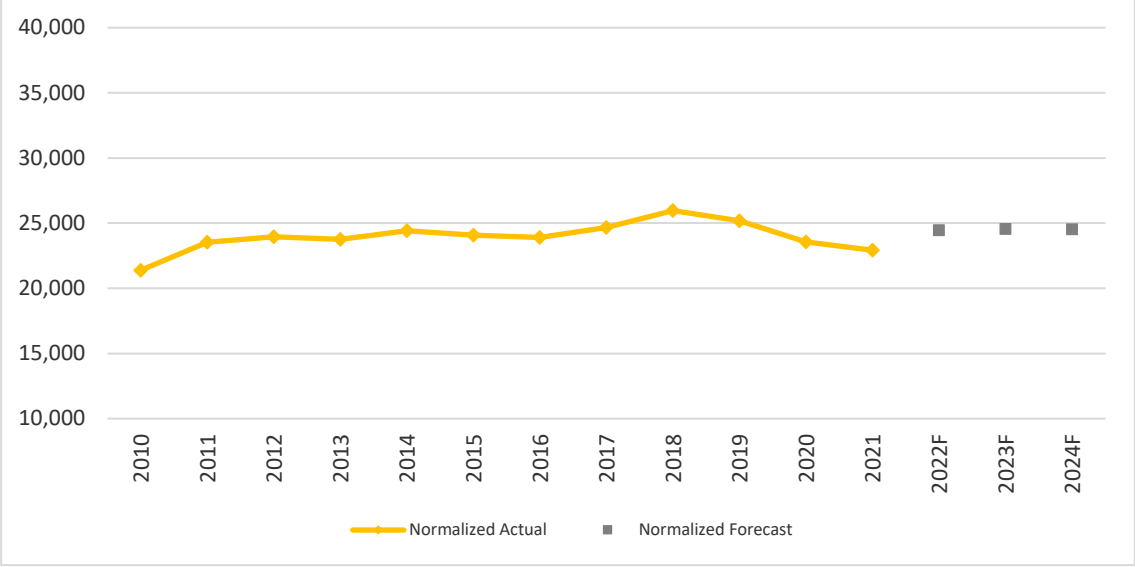


Figure 11: South Weather Zone Normalized Non-Residential Average Use (m^3)

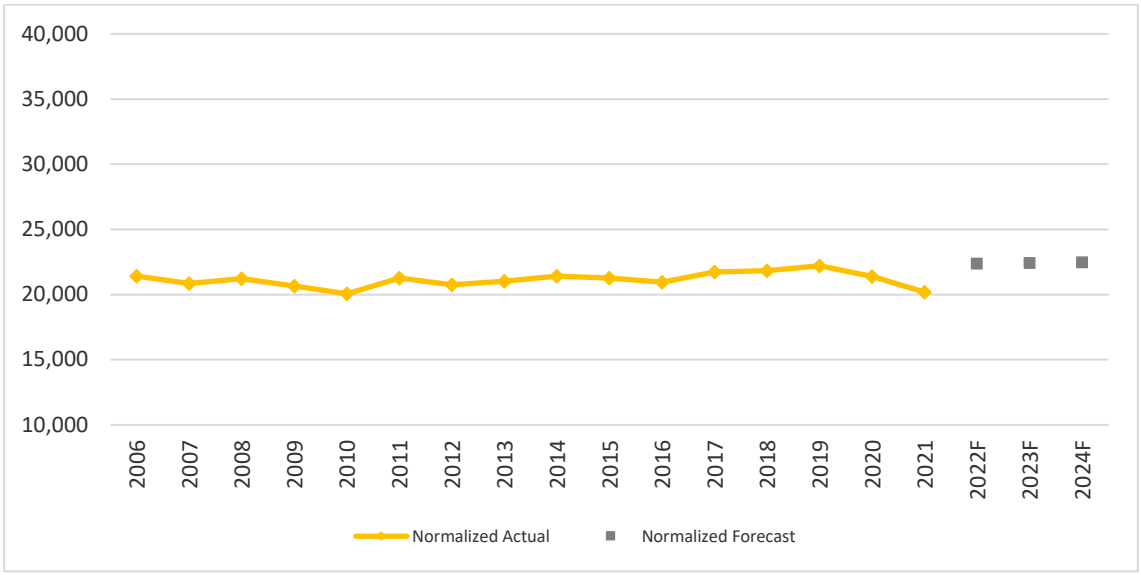
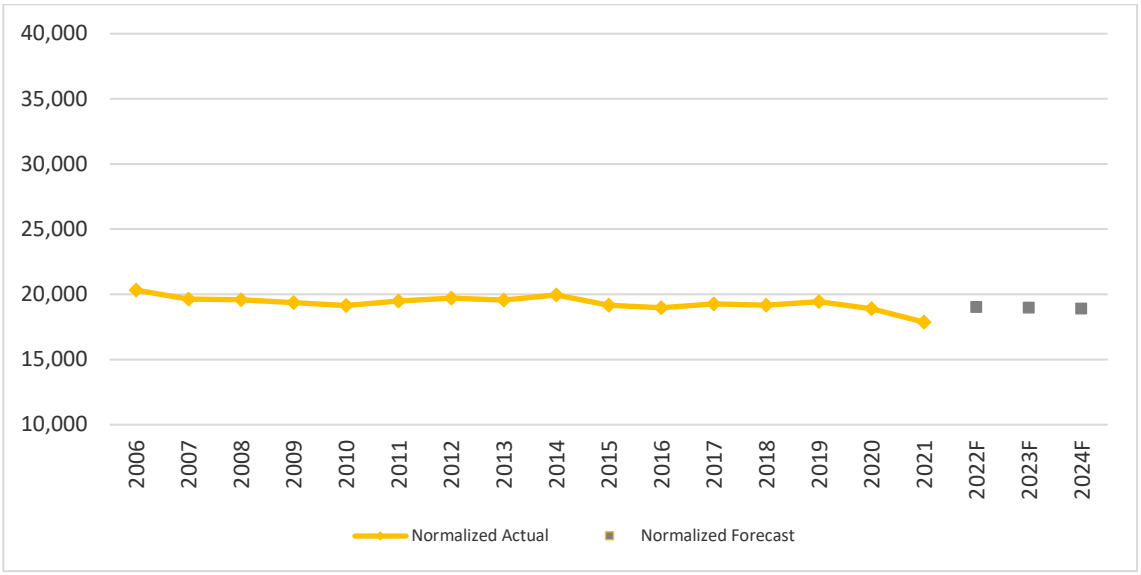


Figure 12: North Weather Zone Normalized Non-Residential Average Use (m^3)



5. Adjustments to Average Use Forecast

45. Enbridge Gas's general service volume forecast is derived by multiplying the average use forecast derived from regression models presented in this Exhibit and the customer forecast. The forecasted volume is then adjusted for future DSM plans. Further explanation is provided at Exhibit 3, Tab 2, Schedule 7. The DSM adjusted volumes are then divided by the number of general service customers to derive the final average use forecast. The general service customer forecast can be found at Exhibit 3, Tab 2, Schedule 6.

46. The general service average use forecast is also adjusted to consider future building code changes announced by the government. The proposed forecast does not include this adjustment since the National Building Code was released after the volumetric forecast was completed. However, Enbridge Gas will be adjusting its average use forecast for the building code efficiency increases in future rate applications as provided at Exhibit 1, Tab 10, Schedule 4.

6. Summary

47. Attachment 7 summarizes actual normalized average use and forecast average use by rate class and by sector.

48. In the MAADs Decision and Order[36], the OEB required the applicants to develop a single, revenue-neutral approach to NAC/AU (average use) to be filed with its next rebasing application. This should include a proposal for a LRAM mechanism that includes general service.

[36] EB-2017-0306/EB-2017-0307, OEB Decision and Order, August 30, 2018.

49. Enbridge Gas is proposing to use regression analysis to develop its residential and non-residential average use forecasts. Based on the Guidehouse Study nearly all comparators use regression to forecast average use for some classes of customers. The regression analysis approach proposed by Enbridge Gas is consistent with the range of approaches used by the comparator utilities and may be considered standard industry practice.

50. As discussed in Exhibit 10, Tab 1, Schedule 1, if Straight Fixed Variable with Demand (SFVD) rate design is approved for general service rate classes, once implemented there will no longer be a need for a normalized average use adjustment for setting rates or deferral account for average use. Enbridge Gas's average use/ volume forecast will continue to be updated each year for Enbridge Gas's gas supply and planning processes. Enbridge Gas is not proposing an LRAM mechanism that includes general service in this Application. Rather, Enbridge Gas is proposing the establishment of a variance account for volume variances until SFVD rate design is approved by the OEB and fully implemented by Enbridge Gas. Details related to this variance account are provided at Exhibit 9, Tab 1, Schedule 2.

SELECTION OF BASE TEMPERATURE

1. Summary

1. Enbridge Gas undertook this work to determine the most appropriate base temperature to be used in the calculation of heating degree days (degree days or HDD). Degree days are one of the main driver variables used when forecasting natural gas demand. HDD, is a measurement designed to quantify the demand for energy needed to heat a building. HDD is derived from measurements of outside air temperature[1].

2. The calculation of HDD relies on the base temperature, defined as the lowest daily mean outdoor temperature not leading to indoor heating. If the outdoor temperature is higher than the base temperature, the building's heating system should not have to operate to maintain the desired indoor temperature. The building needs heat if the outdoor temperature is at or below the base temperature.

3. The value of the base temperature depends in principle on several factors associated with the building and the surrounding environment. Free published degree day data have traditionally been calculated against a base temperature, typically values from 13°C to 18°C (55°F to 65°F) are chosen worldwide. 18°C (64.4°F) in Canada[2], 18.3°C (65.0°F) in the US[3], 15.5°C (59.9°F) in the UK and

[1] Other weather variables may be used, for example wind speed.
[2] Climate Atlas. Heating Degree Days. https://climateatlas.ca/map/canada/hdd_2060_85# Government of Canada. (2022, August 17). Historical Data. https://climate.weather.gc.ca/historical_data/search_historic_data_e.html
[3] National Weather Service. What are Heating and Cooling Degree Days. National Oceanic and Atmospheric Administration. https://www.weather.gov/key/climate_heat_cool

15°C (59.0°F) in the European Union[4] are some examples of different base temperatures used in the calculation of published HDD data.

4. Even though countries' published HDD data is calculated against a default base temperature, many utilities worldwide use a different base temperature than the traditional one that is published by their country since it plays a major role in developing a more accurate demand forecast[5]. The EGD rate zone currently uses base temperature of 14.8°C, 14.6°C, and 15.3°C for the Central, Eastern, and Niagara zones respectively[6]. The Union rate zones use 18°C.

5. To determine an appropriate harmonized base temperature, Enbridge Gas conducted an analysis similar to what was provided to the OEB when the current base temperatures for EGD were approved. Based on the analysis summarized in Table 1, a 15°C is found to be the most appropriate base temperature for calculating degree days. This conclusion is reached based on regression analysis and the regression results from that analysis. The results used to reach this conclusion include R-squared, Mean Absolute Percent Error (MAPE) and Root Mean Square Error (RMSE). As explained in the sections below high R-squared values and lower MAPE and RMSE values support this proposal. Enbridge Gas proposes to use 15°C in the calculation of its HDD starting in 2024.

[4] Eurostat. Energy Statistics – cooling and heating degree days (nrg_chdd). https://ec.europa.eu/eurostat/cache/metadata/en/nrg_chdd_esms.htm
[5] Toronto Hydro uses 10°C as the base temperature in its load forecasting models.
[6] E.B.R.O. 487, Decision with Reasons, November 15, 1994.

Table 1

R-squared and Forecast Errors with Different Temperatures

Line No.	Base Temperature	R-squared	Mean Absolute Error (MAE)	Mean Absolute Percent Error (MAPE)	Root Mean Square Error (RMSE)
		(a)	(b)	(c)	(d)
1	13°C	0.978071	97,974,153	11.29%	1.28 E+08
2	14°C	0.979397	89,651,830	9.83%	1.18 E+09
3	15°C	0.980815	84,928,577	8.66%	1.14 E+10
4	16°C	0.980575	86,950,618	8.69%	1.15 E+11
5	17°C	0.978905	93,981,839	10.00%	1.20 E+12
6	18°C	0.976381	1.03 E+08	12.00%	1.26 E+13

6. The 2024 Test Year HDD forecast for base temperature of 15°C were determined by converting the daily HDD forecast calculated based on 18°C and summing these daily values over the year. The 2024 annual HDD forecast based on 18°C and 15°C are summarized in Table 2 respectively. Details of how HDD forecast based on 18°C developed is provided at Exhibit 3, Tab 2, Schedule 3.

Table 2
Forecast of 2024 Heating Degree Days

Line No.	Weather Zone	Methodology	Forecast (1)	Forecast (2)
			(a)	(b)
1	Central	50/50 Hybrid	3,560	2,764
2	East	10-year moving average	4,338	3,479
3	West	10-year moving average	3,398	2,605
4	South	10-year moving average	3,781	2,941
5	North	10-year moving average	4,673	3,746

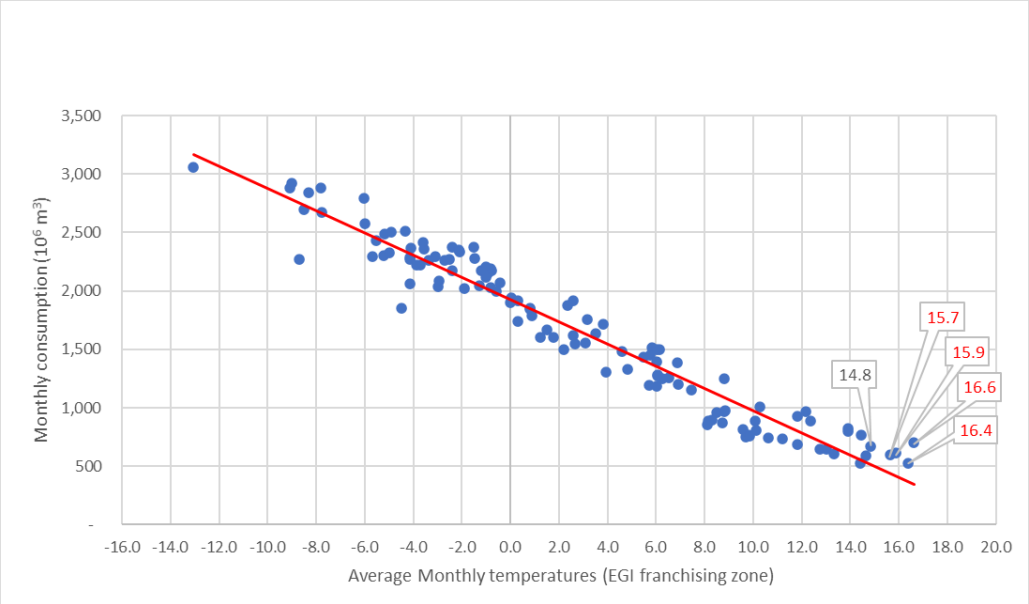
Notes:
(1) HDD forecast based on base temperature of 18°C.
(2) HDD forecast based on base temperature of 15°C.

7. Following sections in this Attachment provide details on the analysis used for the selection of 15°C as base temperature.

2. Temperature Analysis

8. Enbridge Gas consumption and temperature data from the 2006 to 2020 heating season are shown in Figure 1 below.

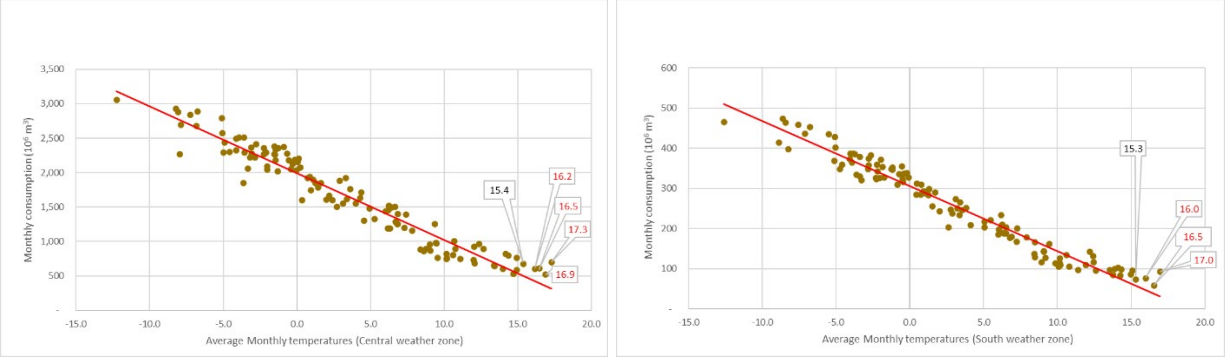
Figure 1: Relationship between Enbridge Gas Volumes and Temperatures



9. Figure 1 shows that as temperature declines, natural gas demand increases. However, as seen from the lower right corner of Figure 1, at higher temperatures, lower demand values (in red) form a parabolic-type curve. These data points provide an indication of when natural gas is not required for space heating.

10. A 'best-fit' line determined using regression analysis can pinpoint the ideal base temperature.[7] About 98% of consumption observations indicate that heating starts at a temperature below 15°C. Figure 2 shows the regression results for the Central and South weather zones. Similar to Figure 1, these figures exhibit the same gas demand behaviour at higher temperatures.

Figure 2: Relationship between Volumes and Temperatures
(Central and South Weather Zones)



3. Regression Analysis Results

11. Regression models were used to determine the precise base temperature below which natural gas is required for heating purposes. This regression analysis considers the relationship between natural gas demand and temperature. This analysis examined the relationship between natural gas demand and various base temperature assumptions. The base temperature examined ranges from 13°C to 18°C. The models containing HDD based on 15°C demonstrated the best statistical results. These results are consistent with the observations made in Section 2 and are summarized in Table 1.

[7] This approach is used by Toronto Hydro in determining the appropriate base temperature.as well. EB-2009-0139, Exhibit K1, Tab 1, Schedule 1.

12. Tables 3-8 summarize the regression models that use 13°C to 18°C as the base temperature for calculating HDD as an independent variable. The results show that using 15°C as the base temperature for the calculation of HDD has the highest R-squared and the best fit. This means that a base temperature of 15°C better captures variation in natural gas demand relative to the other base temperatures analyzed. R-squared increases when moving from a base temperature of 18°C to a lower base temperature. R-squared reaches a maximum when HDD is determined using a base temperature of 15°C. R-squared begins to decline when HDDs are determined using a base temperature lower than 15°C. These regression results support the use of 15°C as the base temperature for calculating degree days.

Table 3

Regression with HDD based on 13°C Base Temperature

Dependent Variable: EGIVOLUMES
Method: Least Squares

Sample: 2006M01 2020M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.17E+08	13435015	31.05996	0.0000
HDD13	3778167.	44244.86	85.39223	0.0000

R-squared	0.976171	Mean dependent var	1.23E+09
Adjusted R-squared	0.976037	S.D. dependent var	8.25E+08
S.E. of regression	1.28E+08	Akaike info criterion	40.17971
Sum squared resid	2.90E+18	Schwarz criterion	40.21519
Log likelihood	-3614.174	Hannan-Quinn criter.	40.19410
F-statistic	7291.833	Durbin-Watson stat	0.897044
Prob(F-statistic)	0.000000		

Table 4

Regression with HDD based on 14°C Base Temperature

Dependent Variable: EGIVOLUMES
Method: Least Squares

Sample: 2006M01 2020M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.87E+08	12715690	30.44344	0.0000
HDD14	3604024.	39179.92	91.98651	0.0000

R-squared	0.979397	Mean dependent var	1.23E+09
Adjusted R-squared	0.979281	S.D. dependent var	8.25E+08
S.E. of regression	1.19E+08	Akaike info criterion	40.03424
Sum squared resid	2.51E+18	Schwarz criterion	40.06971
Log likelihood	-3601.081	Hannan-Quinn criter.	40.04862
F-statistic	8461.518	Durbin-Watson stat	0.846281
Prob(F-statistic)	0.000000		

Table 5

Regression with HDD based on 15°C Base Temperature

Dependent Variable: EGIVOLUMES
Method: Least Squares

Sample: 2006M01 2020M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.57E+08	12497749	28.52677	0.0000
HDD15	3447201.	36136.03	95.39512	0.0000

R-squared	0.980815	Mean dependent var	1.23E+09
Adjusted R-squared	0.980708	S.D. dependent var	8.25E+08
S.E. of regression	1.15E+08	Akaike info criterion	39.96291
Sum squared resid	2.34E+18	Schwarz criterion	39.99839
Log likelihood	-3594.662	Hannan-Quinn criter.	39.97730
F-statistic	9100.229	Durbin-Watson stat	0.801400
Prob(F-statistic)	0.000000		

Table 6

Regression with HDD based on 16°C Base Temperature

Dependent Variable: EGIVOLUMES
Method: Least Squares

Sample: 2006M01 2020M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.25E+08	12825268	25.30176	0.0000
HDD16	3307466.	34892.00	94.79152	0.0000

R-squared	0.980575	Mean dependent var	1.23E+09
Adjusted R-squared	0.980466	S.D. dependent var	8.25E+08
S.E. of regression	1.15E+08	Akaike info criterion	39.97536
Sum squared resid	2.37E+18	Schwarz criterion	40.01084
Log likelihood	-3595.783	Hannan-Quinn criter.	39.98975
F-statistic	8985.433	Durbin-Watson stat	0.770129
Prob(F-statistic)	0.000000		

Table 7

Regression with HDD based on 17°C Base Temperature

Dependent Variable: EGIVOLUMES
Method: Least Squares

Sample: 2006M01 2020M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.91E+08	13650048	21.29500	0.0000
HDD17	3183255.	35025.16	90.88480	0.0000

R-squared	0.978905	Mean dependent var	1.23E+09
Adjusted R-squared	0.978787	S.D. dependent var	8.25E+08
S.E. of regression	1.20E+08	Akaike info criterion	40.05783
Sum squared resid	2.57E+18	Schwarz criterion	40.09331
Log likelihood	-3603.205	Hannan-Quinn criter.	40.07222
F-statistic	8260.047	Durbin-Watson stat	0.759256
Prob(F-statistic)	0.000000		

Table 8

Regression with HDD based on 18°C Base Temperature

Dependent Variable: EGIVOLUMES
Method: Least Squares

Sample: 2006M01 2020M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.45E+08	14856924	16.51726	0.0000
HDD18	3089784.	36019.87	85.77999	0.0000

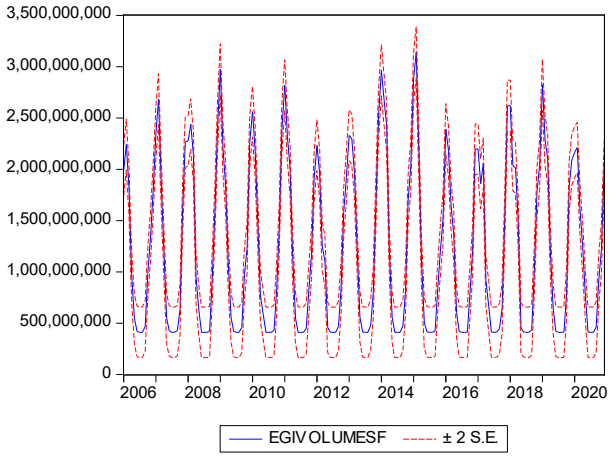
R-squared	0.976381	Mean dependent var	1.23E+09
Adjusted R-squared	0.976248	S.D. dependent var	8.25E+08
S.E. of regression	1.27E+08	Akaike info criterion	40.17086
Sum squared resid	2.88E+18	Schwarz criterion	40.20634
Log likelihood	-3613.378	Hannan-Quinn criter.	40.18525
F-statistic	7358.207	Durbin-Watson stat	0.760684
Prob(F-statistic)	0.000000		

4. Forecast Accuracy Results

13. In-sample accuracy for the forecast generated by the above models, was also tested (for the whole sample period: 2006 to 2020). These results are provided in Figures 3-8. Included in these figures are the MAPE and RMSE statistics for each of the regression models. The lower the MAPE and RMSE the better the predictive ability of a regression model. The results below and summarized in Table 1 show that the forecast generated by the model which includes HDD calculated using 15°C base temperature has the best accuracy.

Figure 3:

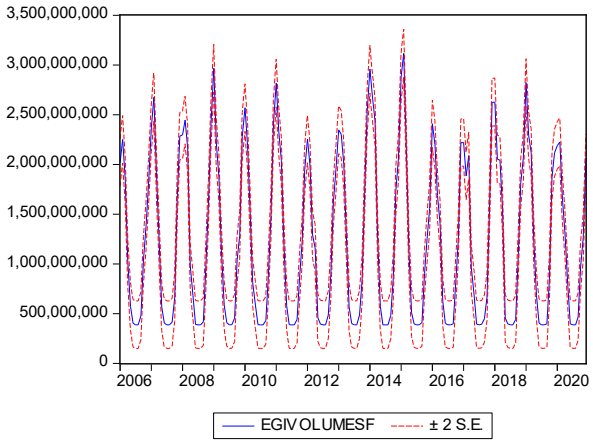
In-Sample Accuracy (Regression with HDD based on 13°C Base Temperature)



Forecast: EGIVOLUMESF	
Actual: EGIVOLUMES	
Forecast sample: 2006M01 2020M12	
Included observations: 180	
Root Mean Squared Error	1.28E+08
Mean Absolute Error	97974153
Mean Abs. Percent Error	11.29531
Theil Inequality Coefficient	0.043648
Bias Proportion	0.012336
Variance Proportion	0.018078
Covariance Proportion	0.969586

Figure 4:

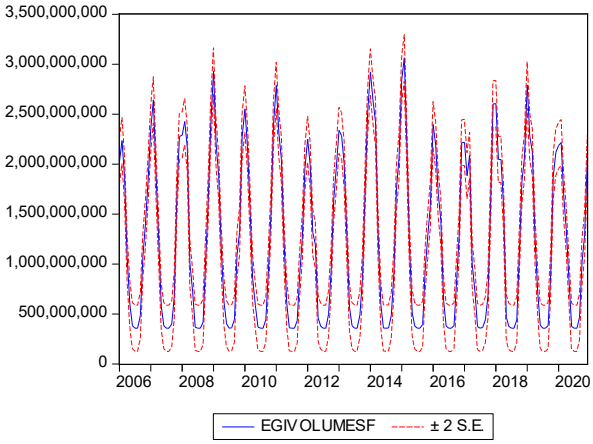
In-Sample Accuracy (Regression with HDD based on 14°C Base Temperature)



Forecast: EGIVOLUMESF	
Actual: EGIVOLUMES	
Forecast sample: 2006M01 2020M12	
Included observations: 180	
Root Mean Squared Error	1.18E+08
Mean Absolute Error	89651830
Mean Abs. Percent Error	9.828345
Theil Inequality Coefficient	0.040040
Bias Proportion	0.000000
Variance Proportion	0.005205
Covariance Proportion	0.994795

Figure 5:

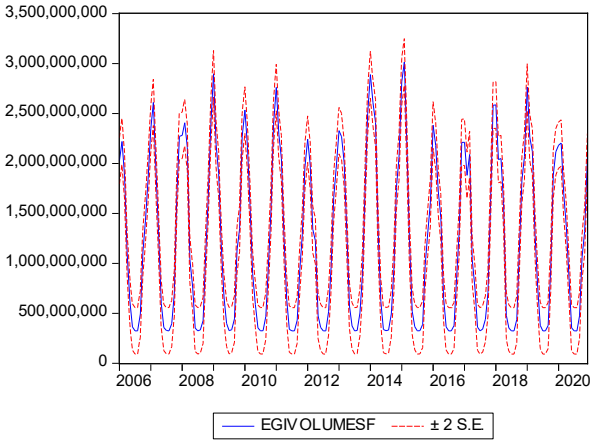
In-Sample Accuracy (Regression with HDD based on 15°C Base Temperature)



Forecast: EGIVOLUMESF	
Actual: EGIVOLUMES	
Forecast sample: 2006M01 2020M12	
Included observations: 180	
Root Mean Squared Error	1.14E+08
Mean Absolute Error	84928577
Mean Abs. Percent Error	8.663581
Theil Inequality Coefficient	0.038633
Bias Proportion	0.000000
Variance Proportion	0.004843
Covariance Proportion	0.995157

Figure 6:

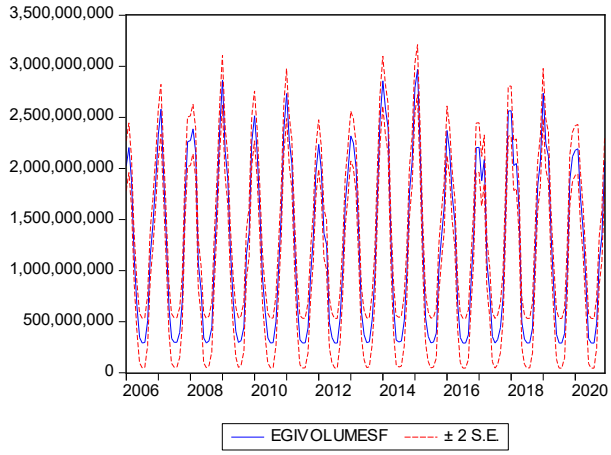
In-Sample Accuracy (Regression with HDD based on 16°C Base Temperature)



Forecast: EGIVOLUMESF	
Actual: EGIVOLUMES	
Forecast sample: 2006M01 2020M12	
Included observations: 180	
Root Mean Squared Error	1.15E+08
Mean Absolute Error	86950618
Mean Abs. Percent Error	8.692013
Theil Inequality Coefficient	0.038875
Bias Proportion	0.000000
Variance Proportion	0.004904
Covariance Proportion	0.995096

Figure 7:

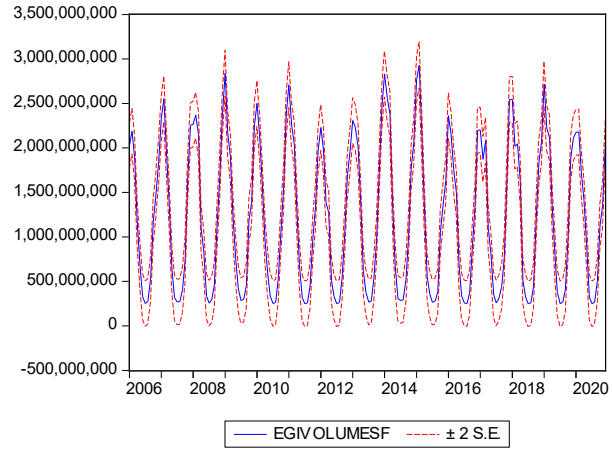
In-Sample Accuracy (Regression with HDD based on 17°C Base Temperature)



Forecast: EGIVOLUMESF	
Actual: EGIVOLUMES	
Forecast sample: 2006M01 2020M12	
Included observations: 180	
Root Mean Squared Error	1.20E+08
Mean Absolute Error	93981839
Mean Abs. Percent Error	10.00310
Theil Inequality Coefficient	0.040517
Bias Proportion	0.000000
Variance Proportion	0.005330
Covariance Proportion	0.994670

Figure 8:

In-Sample Accuracy (Regression with HDD based on 18°C Base Temperature)



Forecast: EGIVOLUMESF	
Actual: EGIVOLUMES	
Forecast sample: 2006M01 2020M12	
Included observations: 180	
Root Mean Squared Error	1.26E+08
Mean Absolute Error	1.03E+08
Mean Abs. Percent Error	12.00527
Theil Inequality Coefficient	0.042881
Bias Proportion	0.000000
Variance Proportion	0.005976
Covariance Proportion	0.994024

AVERAGE USE NORMALIZATION METHODOLOGY

1. Weather Normalization

1. The purpose of this attachment is to describe the current OEB-approved normalization methodologies used in the EGD and Union rate zones to normalize actual consumption for general service rate classes and to request approval for a proposed harmonized normalization methodology for Enbridge Gas starting in 2024.

2. Current Normalization Methodologies

2. For the EGD rate zone, the total load per customer of a customer group is calculated by dividing the group's consumption by the total customers within that group. Base load per customer is calculated by taking an average of the two non-weather-sensitive summer months, July and August. Base load represents non-weather-sensitive load such as water heating and other non-heating uses. After that, the heat load per customer is calculated by subtracting the base load per customer from the total load per customer. Heat load represents the weather-sensitive portion of consumption. Dividing the heat load per customer by actual heating degree days (HDD), an average use per degree day is generated. The actual use per degree day is then adjusted to reflect normal weather by multiplying it with the budget HDD. Normalized average use is defined as the sum of base load use per customer and normalized heat-load per customer.

3. The Union rate zones use weather demand elasticity factors to estimate the normalized actual average use. The elasticity factors are calculated by multiplying the percentage of weather variance (actual vs. budget HDD) by the weather elasticity of demand for each related month. The weather elasticity of demand indicates the level of change in demand due to the change in weather relative to budget weather and is derived using the regression monthly coefficients. Actual

average use is then multiplied by the weather elasticity factor to determine the weather normalized average use[1].

3. Proposed Normalization Methodology

4. Enbridge Gas proposes using the weather (HDD) coefficients by month derived directly from the regression equations to determine the weather normalized actual average use. HDD coefficients in the equations are interpreted as a change in average use (m^3) in response to a change in HDD relative to budget HDD. Therefore, the weather impact for a specific month is determined by multiplying this coefficient by the weather variance (actual vs. budget HDD) for each related month, then the weather impact is added to the actual average use to determine the normalized actual average use[2].

5. Enbridge Gas believes the proposed methodology of using the weather coefficients from the regression equations when calculating normalized actual average use is appropriate because:
    a) The weather coefficients are derived using statistical processes and are significant.
    b) The normalized results determined by the proposed methodology are more stable than alternative methods in general. More stable results indicate that the impact of weather when normalizing actual results is better reflected by the proposed method.

[1] For example, if the actual average use were 403 m^3 in the month, the weather elasticity for the month is 0.8 and the weather variance is 5% colder, then the normalized average use would have been 403 m^3 x (1 / (1 + (0.8 x 0.05)) = 388 m^3.
[2] For example, if the actual average use were 400 m^3 in the month, the weather coefficient is 0.6 (which means 1 HDD change would cause 0.6 m^3 change in average use), actual HDD for is 525 and budget HDD is 500, then the normalized actual average use is 400 m^3 – (525 -500) * 0.600 = 385 m^3.

c) It is a common normalization methodology used by Enbridge Gas's comparators as provided at Exhibit 3, Tab 2, Schedule 2.

6. The section below provides a comparative analysis between the proposed methodology and the alternatives, those alternatives being the EGD rate zone current normalization methodology and the Union rate zones current normalization methodology. Results for the alternative methods are determined on a proxy basis due to data configuration differences (revenue class versus rate class, service class), absence of monthly weather factors for EGD rate zone or baseload seasonal adjustment factors for the Union rate zones.

7. Enbridge Gas used the standard deviation of the year-over-year percentage change in normalized average use as the stability measure. A lower standard deviation indicates a more stable normalization method.

8. Table 1 and Table 2 show the standard deviation of the year-over-year percentage change in normalized average use for the last nine years and for the last five years. Standard deviations for the proposed methodology for most of the rate classes are lower compared with the alternative methodologies.

Table 1
EGD Rate Zone: Normalized Average Use (m^3/year)

Line No.	Year	Proposed Method		Union Proxy Method		Existing Method	
		Rate 1	Rate 6	Rate 1	Rate 6	Rate 1	Rate 6
		(a)	(b)	(c)	(d)	(e)	(f)
1	2012	2,509	28,951	2,521	28,972	2,559	29,272
2	2013	2,482	28,581	2,474	28,249	2,499	28,710
3	2014	2,475	29,363	2,486	28,599	2,496	28,893
4	2015	2,425	28,811	2,419	28,267	2,441	28,763
5	2016	2,392	27,659	2,374	27,737	2,379	27,953
6	2017	2,438	28,570	2,438	28,686	2,442	28,938
7	2018	2,415	30,008	2,416	28,978	2,422	28,909
8	2019	2,403	29,201	2,406	28,569	2,441	29,155
9	2020	2,428	27,987	2,424	27,892	2,441	28,310
10	2021	2,373	27,159	2,351	27,066	2,378	27,526
	Year-over-Year Normalized Average Use Percentage Change						
11	2013	(1%)	(1%)	(2%)	(2%)	(2%)	(2%)
12	2014	0%	3%	0%	1%	0%	1%
13	2015	(2%)	(2%)	(3%)	(1%)	(2%)	0%
14	2016	(1%)	(4%)	(2%)	(2%)	(3%)	(3%)
15	2017	2%	3%	3%	3%	3%	4%
16	2018	(1%)	5%	(1%)	1%	(1%)	0%
17	2019	0%	(3%)	0%	(1%)	1%	1%
18	2020	1%	(4%)	1%	(2%)	0%	(3%)
19	2021	(2%)	(3%)	(3%)	(3%)	(3%)	(3%)
20	Standard Deviation (last 9 yrs)	0.014	0.034	0.018	0.021	0.018	0.022
21	Standard Deviation (last 5 yrs)	0.016	0.042	0.021	0.026	0.019	0.027

Table 2
Union Rate Zone: Normalized Average Use (m^3/year)

Line No.	Year	Proposed Method				LEGD Proxy Method				Existing Method			
		Rate M1	Rate M2	Rate 01	Rate10	Rate M1	Rate M2	Rate 01	Rate 10	Rate M1	Rate M2	Rate 01	Rate 10
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	2012	2,785	169,027	2,843	164,677	2,650	160,942	2,889	165,986	2,800	167,294	2,957	170,237
2	2013	2,801	169,497	2,821	164,121	2,762	168,399	2,906	169,478	2,785	170,140	2,935	170,600
3	2014	2,817	168,301	2,861	168,750	2,754	167,077	2,951	175,031	2,796	169,762	2,984	175,472
4	2015	2,708	164,314	2,736	158,476	2,577	158,771	2,764	160,428	2,699	164,195	2,833	163,729
5	2016	2,652	158,540	2,682	154,005	2,606	156,862	2,764	158,056	2,644	158,664	2,787	159,721
6	2017	2,736	165,473	2,726	157,466	2,647	161,219	2,785	160,257	2,724	164,896	2,825	162,943
7	2018	2,756	167,330	2,731	160,130	2,702	165,984	2,828	166,156	2,771	169,148	2,850	166,807
8	2019	2,775	167,068	2,741	163,313	2,739	166,070	2,832	169,167	2,737	166,453	2,852	169,607
9	2020	2,742	158,391	2,735	153,707	2,672	156,336	2,817	158,179	2,714	158,589	2,849	160,002
10	2021	2,643	148,929	2,638	144,582	2,571	145,694	2,705	147,670	2,631	148,143	2,731	149,709
	Year-over-Year Normalized Average Use Percentage Change												
11	2013	1%	0%	(1%)	0%	4%	5%	1%	2%	(1%)	2%	(1%)	0%
12	2014	1%	(1%)	1%	3%	0%	(1%)	2%	3%	0%	0%	2%	3%
13	2015	(4%)	(2%)	(4%)	(6%)	(6%)	(5%)	(6%)	(8%)	(3%)	(3%)	(5%)	(7%)
14	2016	(2%)	(4%)	(2%)	(3%)	1%	(1%)	0%	(1%)	(2%)	(3%)	(2%)	(2%)
15	2017	3%	4%	2%	2%	2%	3%	1%	1%	3%	4%	1%	2%
16	2018	1%	1%	0%	2%	2%	3%	2%	4%	2%	3%	1%	2%
17	2019	1%	0%	0%	2%	1%	0%	0%	2%	(1%)	(2%)	0%	2%
18	2020	(1%)	(5%)	0%	(6%)	(2%)	(6%)	(1%)	(6%)	(1%)	(5%)	0%	(6%)
19	2021	(4%)	(6%)	(4%)	(6%)	(4%)	(7%)	(4%)	(7%)	(3%)	(7%)	(4%)	(6%)
20	Standard Deviation (Last 9 yrs)	0.023	0.033	0.021	0.038	0.033	0.041	0.027	0.047	0.021	0.035	0.024	0.040
21	Standard Deviation (Last 5 yrs)	0.025	0.044	0.019	0.043	0.027	0.047	0.021	0.049	0.024	0.045	0.022	0.044

MONTHLY FIGURES (RESIDENTIAL AND NON-RESIDENTIAL AVERAGE USE)

1. Residential Models

Figure 1: Central Residential Unnormalized Average Use (m^3) (Actual and Forecast)

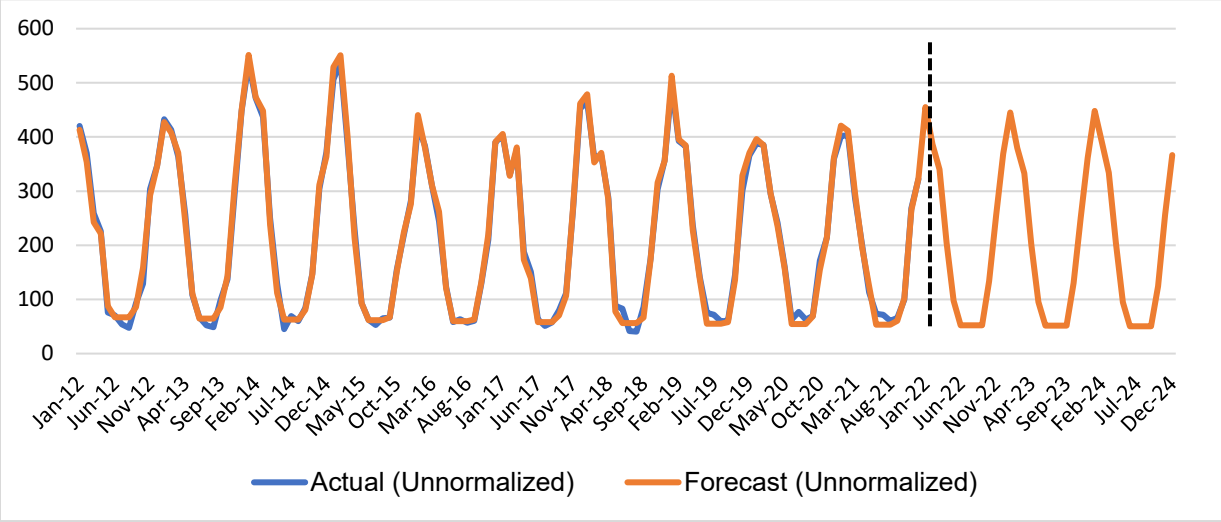


Figure 2: East Residential Unnormalized Average Use (m^3) (Actual and Forecast)

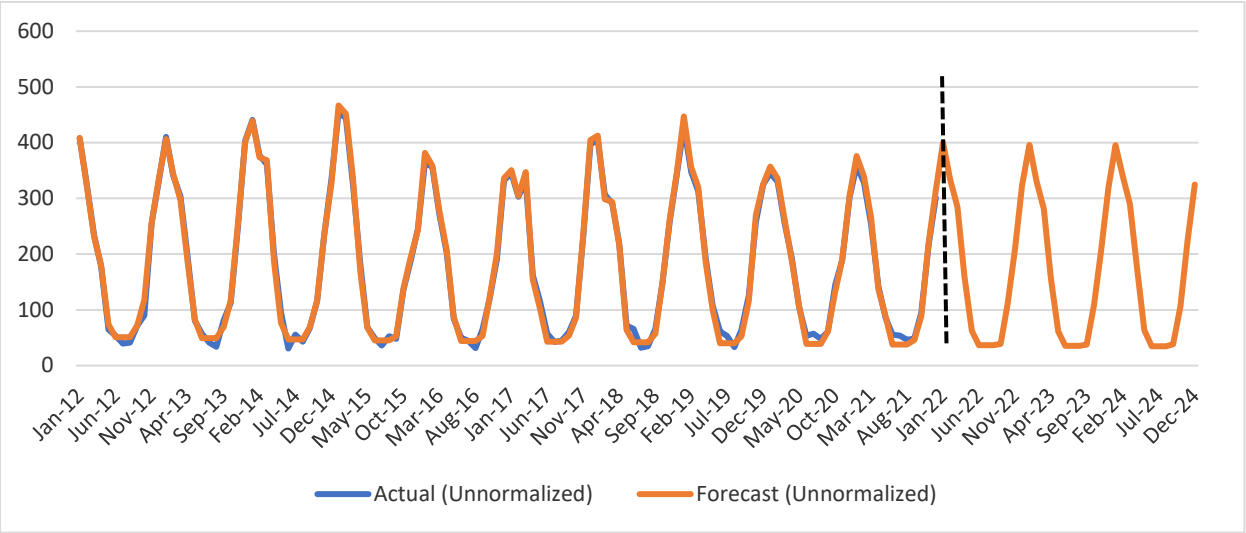


Figure 3: West Residential Unnormalized Average Use (m^3) (Actual and Forecast)

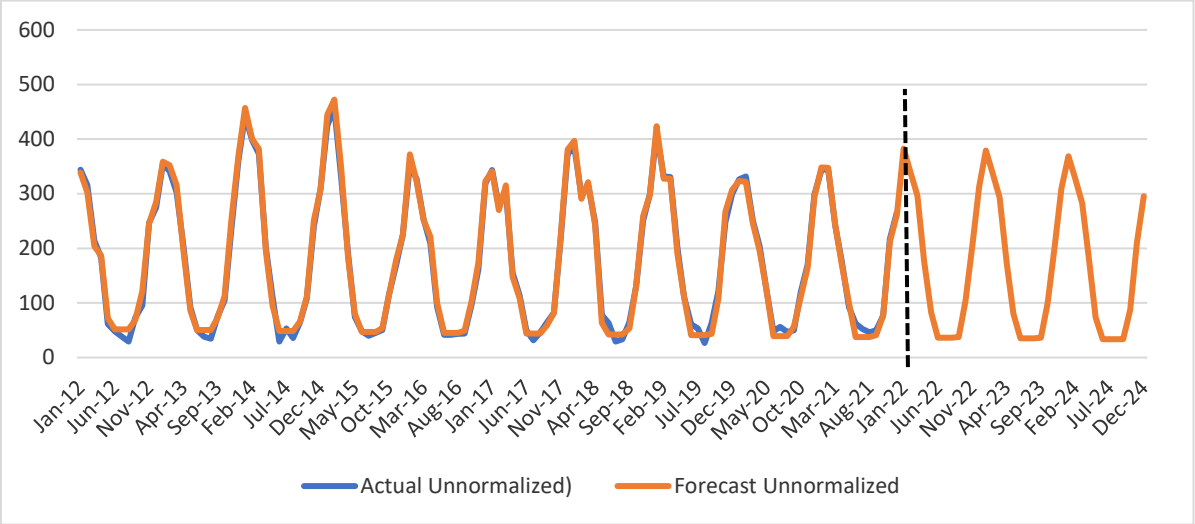


Figure 4: South Residential Unnormalized Average Use (m^3) (Actual and Forecast)

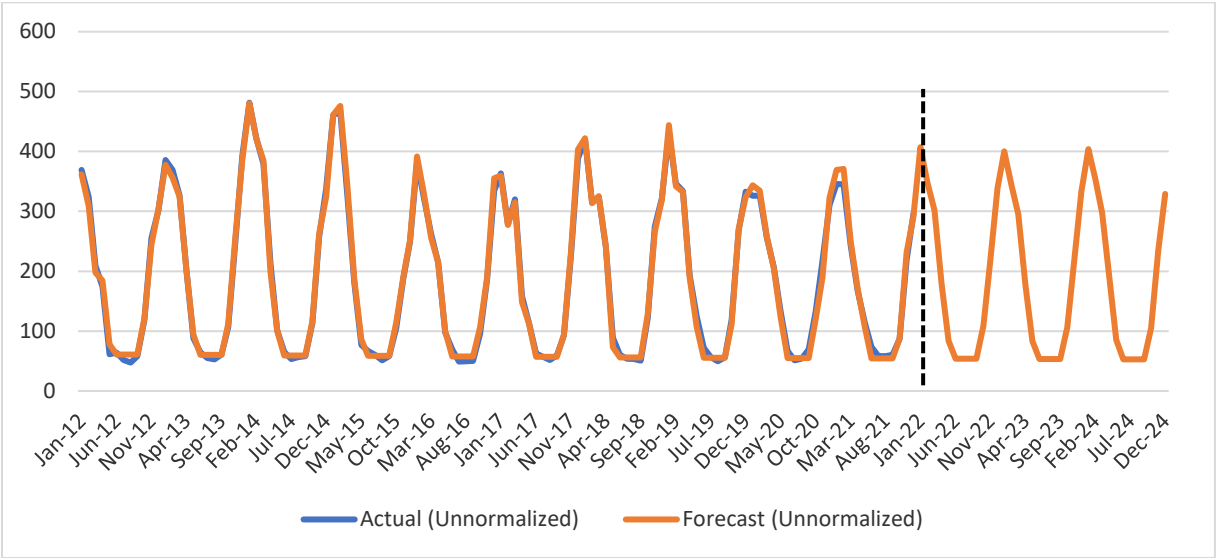
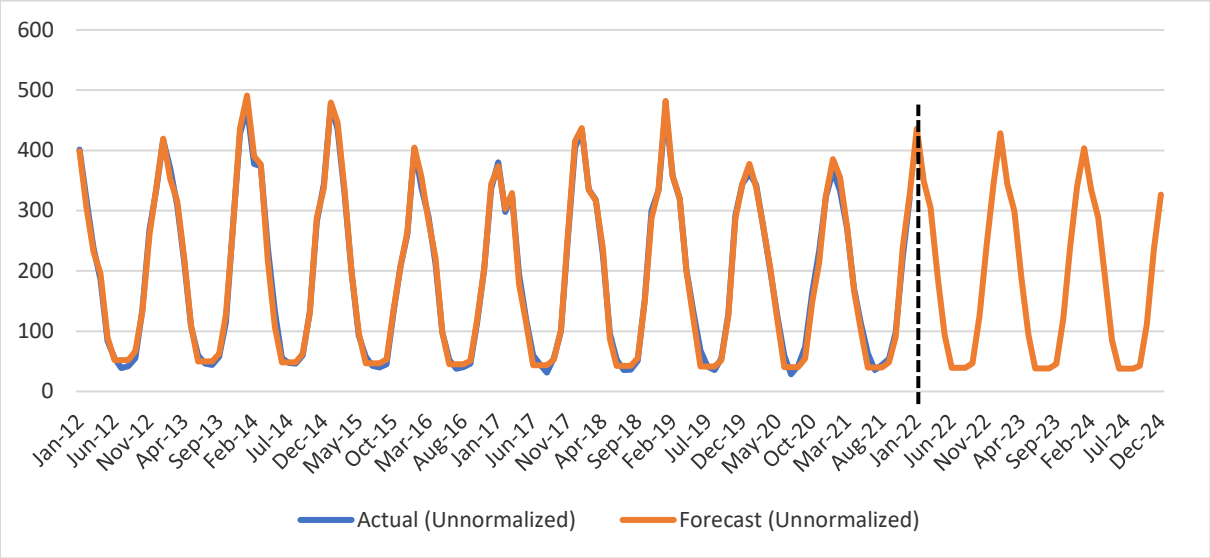


Figure 5: North Residential Unnormalized Average Use (m^3) (Actual and Forecast)



2. Non-Residential Models

Figure 6: Central Non-Residential Unnormalized Average Use (m^3) (Actual and Forecast)

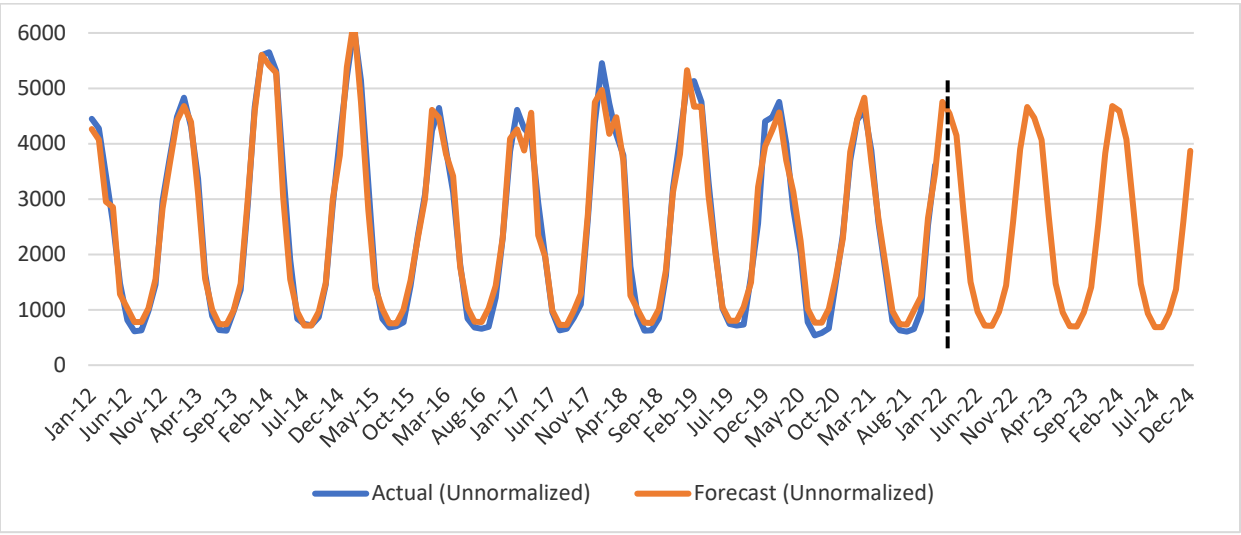


Figure 7: East Non-Residential Unnormalized Average Use (m^3) (Actual and Forecast)

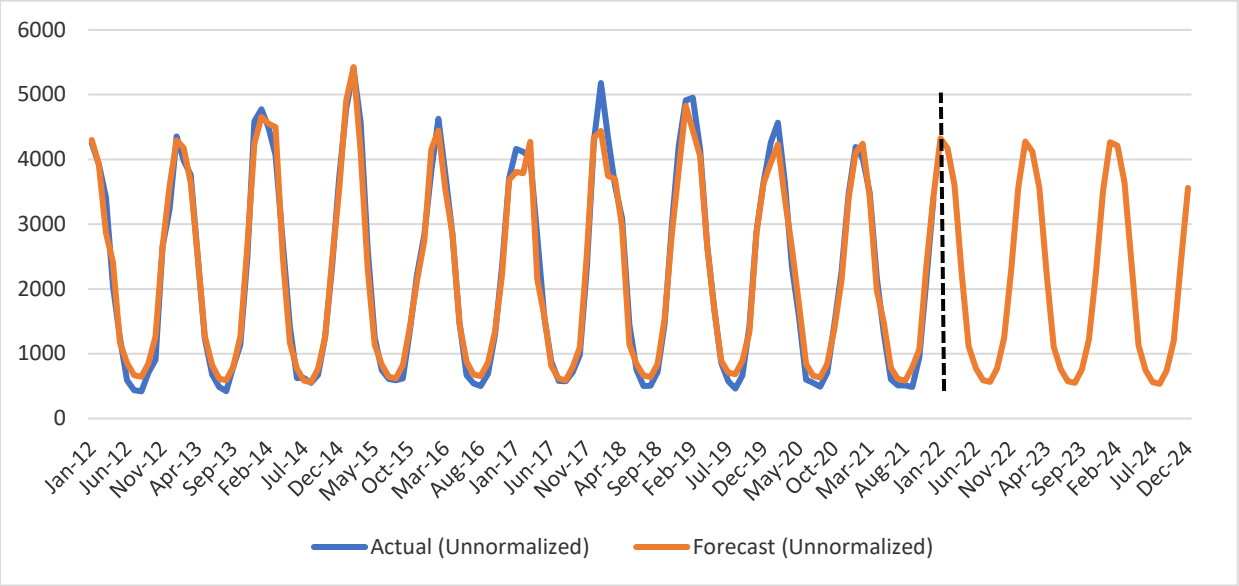


Figure 8: West Non-Residential Unnormalized Average Use (m^3) (Actual and Forecast)

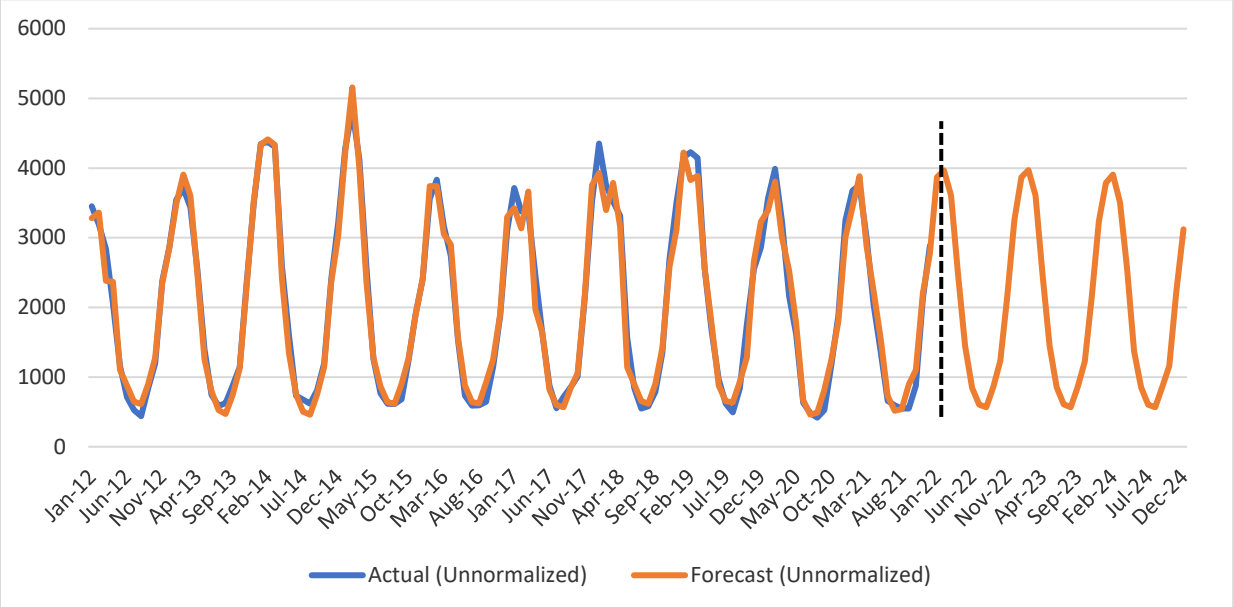


Figure 9: South Non-Residential Unnormalized Average Use (m^3) (Actual and Forecast)

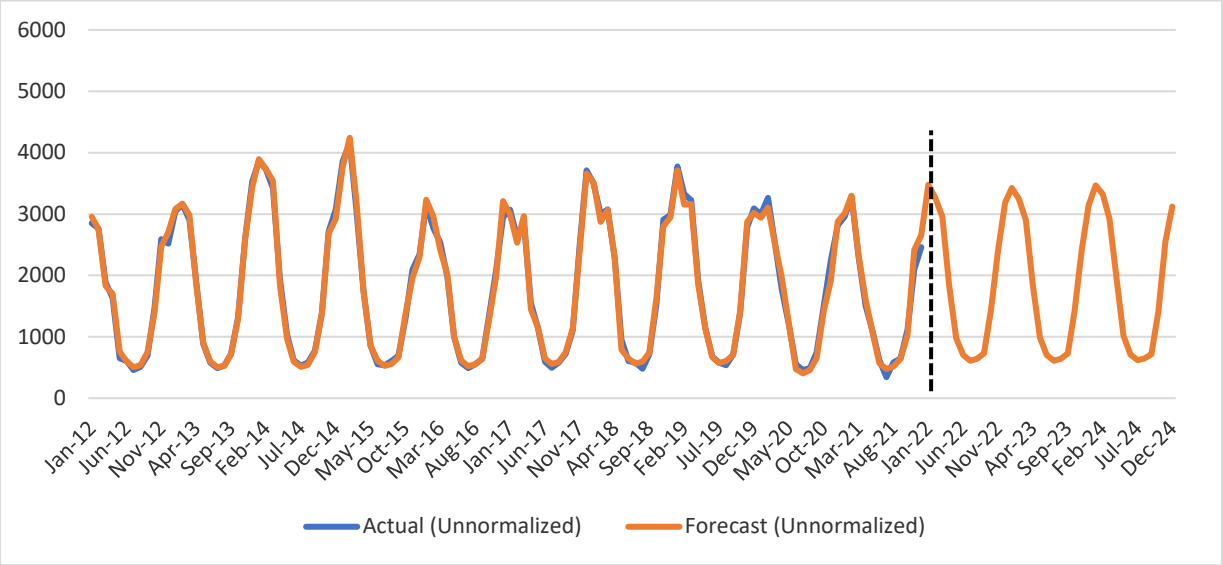
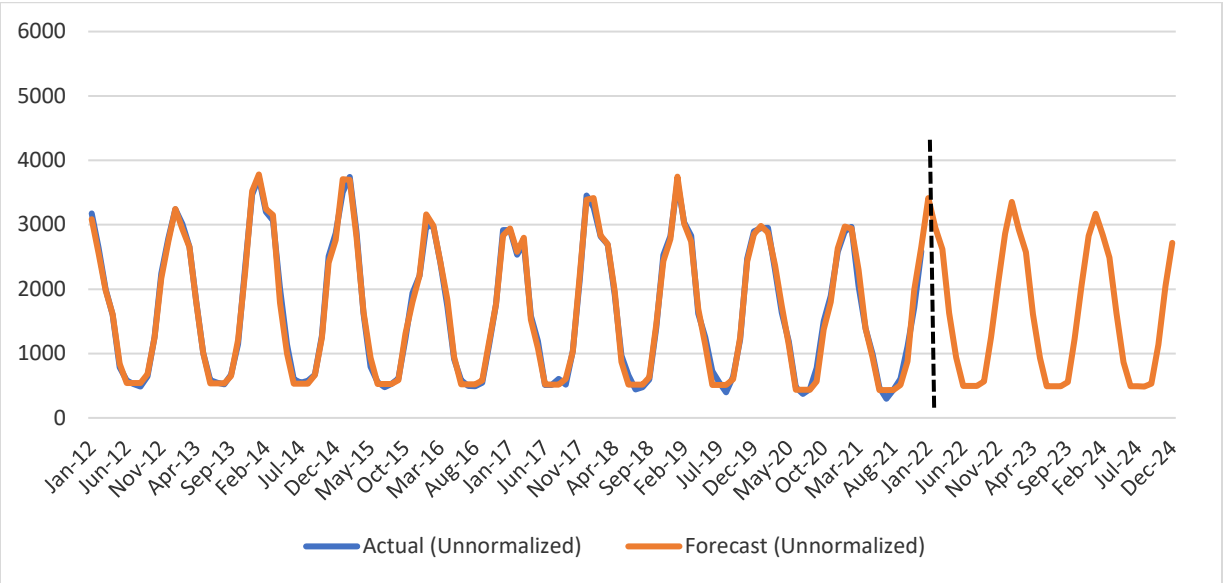


Figure 10: North Non-Residential Unnormalized Average Use (m^3) (Actual and Forecast)



Residential Average Use: Central Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	-57.11	-3.90	0.00
2	CENTHDD_JAN	0.68	92.33	0.00
3	CENTHDD_FEB	0.64	81.57	0.00
4	CENTHDD_MAR	0.67	68.37	0.00
5	CENTHDD_APR	0.67	37.59	0.00
6	CENTHDD_MAY	0.79	14.01	0.00
7	CENTHDD_SEP	0.61	2.92	0.00
8	CENTHDD_OCT	0.58	20.58	0.00
9	CENTHDD_NOV	0.65	49.36	0.00
10	CENTHDD_DEC	0.65	74.42	0.00
11	CENRES_VINT	238.48	8.41	0.00
12	AR(1)	-0.11	-1.55	0.12
13	R-squared	0.99		
14	Adjusted R-squared	0.99		
15	S.E. of regression	15.41		
16	F-statistic	1,619.55		0.00

Residential Average Use: East Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	-21.61	-2.62	0.01
2	EASTHDD_JAN	0.49	105.84	0.00
3	EASTHDD_FEB	0.47	91.28	0.00
4	EASTHDD_MAR	0.49	76.56	0.00
5	EASTHDD_APR	0.49	39.26	0.00
6	EASTHDD_MAY	0.53	13.65	0.00
7	EASTHDD_SEP	0.34	4.78	0.00
8	EASTHDD_OCT	0.39	24.15	0.00
9	EASTHDD_NOV	0.45	54.37	0.00
10	EASTHDD_DEC	0.47	87.44	0.00
11	EASTRES_VINT	187.99	8.86	0.00
12	AR(1)	0.15	2.06	0.04
13	R-squared	0.99		
14	Adjusted R-squared	0.99		
15	S.E. of regression	11.40		
16	F-statistic	2,306.81		0.00

Residential Average Use: West Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	-77.54	-3.71	0.00
2	WESTHDD_JAN	0.61	88.61	0.00
3	WESTHDD_FEB	0.59	79.85	0.00
4	WESTHDD_MAR	0.61	67.54	0.00
5	WESTHDD_APR	0.60	37.59	0.00
6	WESTHDD_MAY	0.68	14.08	0.00
7	WESTHDD_SEP	0.74	3.38	0.00
8	WESTHDD_OCT	0.52	17.99	0.00
9	WESTHDD_NOV	0.58	46.18	0.00
10	WESTHDD_DEC	0.59	70.87	0.00
11	WESRES_VINT	169.80	6.08	0.00
12	AR(1)	0.13	1.72	0.09
13	R-squared	0.99		
14	Adjusted R-squared	0.99		
15	S.E. of regression	13.07		
16	F-statistic	1,630.67		0.00

Residential Average Use: South Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	2.24	0.10	0.92
2	SOUTHDD_JAN	0.58	106.63	0.00
3	SOUTHDD_FEB	0.54	90.72	0.00
4	SOUTHDD_MAR	0.55	74.79	0.00
5	SOUTHDD_APR	0.52	41.56	0.00
6	SOUTHDD_MAY	0.51	14.14	0.00
7	SOUTHDD_OCT	0.35	19.01	0.00
8	SOUTHDD_NOV	0.50	54.38	0.00
9	SOUTHDD_DEC	0.56	87.40	0.00
10	SOUTHRES_VINT	102.80	2.60	0.01
11	AR(1)	0.23	2.74	0.01
12	R-squared	0.99		
13	Adjusted R-squared	0.99		
14	S.E. of regression	9.84		
15	F-statistic	2,610.33		0.00

Residential Average Use: North Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	-40.45	-3.01	0.00
2	NORTHDD_JAN	0.49	125.36	0.00
3	NORTHDD_FEB	0.44	103.31	0.00
4	NORTHDD_MAR	0.46	86.95	0.00
5	NORTHDD_APR	0.44	51.50	0.00
6	NORTHDD_MAY	0.42	22.32	0.00
7	NORTHDD_SEP	0.15	4.16	0.00
8	NORTHDD_OCT	0.34	28.49	0.00
9	NORTHDD_NOV	0.45	67.23	0.00
10	NORTHDD_DEC	0.45	101.54	0.00
11	NORTHRES_VINT	162.83	6.73	0.00
12	AR(1)	0.28	3.87	0.00
13	R-squared	1.00		
14	Adjusted R-squared	0.99		
15	S.E. of regression	9.73		
16	F-statistic	3,422.98		0.00

Non-Residential Average Use: Central Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	1288.44	7.52	0.00
2	CENTHDD_JAN	6.39	44.16	0.00
3	CENTHDD_FEB	6.88	44.34	0.00
4	CENTHDD_MAR	7.41	38.50	0.00
5	CENTHDD_APR	7.86	22.76	0.00
6	CENTHDD_MAY	9.47	9.16	0.00
7	CENTHDD_OCT	3.37	6.39	0.00
8	CENTHDD_NOV	5.20	20.27	0.00
9	CENTHDD_DEC	6.03	34.99	0.00
10	REALCENTRALCPG	-1249.52	-1.79	0.08
11	JUL	-248.14	-3.10	0.00
12	AUG	-250.07	-3.12	0.00
13	DUMPRE10	-183.43	-1.44	0.15
14	AR(1)	0.17	2.25	0.03
15	R-squared	0.97		
16	Adjusted R-squared	0.97		
17	S.E. of regression	281.70		
18	F-statistic	461.45		0.00

Non-Residential Average Use: East Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	1215.14	12.89	0.00
2	EASTHDD_JAN	4.78	48.36	0.00
3	EASTHDD_FEB	5.39	48.50	0.00
4	EASTHDD_MAR	5.57	41.07	0.00
5	EASTHDD_APR	5.88	22.89	0.00
6	EASTHDD_MAY	7.08	9.40	0.00
7	EASTHDD_OCT	2.46	8.11	0.00
8	EASTHDD_NOV	3.93	23.04	0.00
9	EASTHDD_DEC	4.53	39.86	0.00
10	REALEASTCPG	-1738.46	-5.59	0.00
11	JUL	-181.94	-2.98	0.00
12	AUG	-206.38	-3.39	0.00
13	AR(1)	0.338	4.731	0.00
14	R-squared	0.98		
15	Adjusted R-squared	0.98		
16	S.E. of regression	226.42		
17	F-statistic	653.42		0.00

Non-Residential Average Use: West Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	-209.60	-0.35	0.72
2	WESTHDD_JAN	5.38	43.40	0.00
3	WESTHDD_FEB	6.12	44.11	0.00
4	WESTHDD_MAR	6.54	38.06	0.00
5	WESTHDD_APR	6.97	23.40	0.00
6	WESTHDD_MAY	8.89	9.69	0.00
7	WESTHDD_OCT	2.89	5.24	0.00
8	WESTHDD_NOV	4.47	19.77	0.00
9	WESTHDD_DEC	5.11	33.49	0.00
10	REALWESTCPG	-1362.17	-1.75	0.08
11	JUL	-254.41	-3.70	0.00
12	AUG	-290.83	-4.22	0.00
13	WESTEMP	6.72	2.73	0.01
14	R-squared	0.98		
15	Adjusted R-squared	0.98		
16	S.E. of regression	199.62		
17	F-statistic	477.80		0.00

Non-Residential Average Use: South Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	-101.67	-0.55	0.58
2	SOUTHDD_JAN	4.52	79.80	0.00
3	SOUTHDD_FEB	4.70	76.76	0.00
4	SOUTHDD_MAR	5.00	65.27	0.00
5	SOUTHDD_APR	4.70	34.25	0.00
6	SOUTHDD_MAY	4.76	11.89	0.00
7	SOUTHDD_SEP	3.22	2.88	0.00
8	SOUTHDD_OCT	4.72	22.63	0.00
9	SOUTHDD_NOV	5.13	51.45	0.00
10	SOUTHDD_DEC	4.85	71.35	0.00
11	SOUTHEMP	0.58	3.85	0.00
12	JUL	-95.21	-2.78	0.01
13	AUG	-65.95	-1.93	0.06
14	DUMCOVID	-103.84	-3.63	0.00
15	R-squared	0.99		
16	Adjusted R-squared	0.99		
17	S.E. of regression	105.44		
18	F-statistic	1602.86		0.00

Non-Residential Average Use: North Weather Zone

Line No.	Variable	Coefficient (a)	t-Statistic (b)	p-Value (c)
1	C	567.27	32.45	0.00
2	NORTHDD_JAN	3.62	105.87	0.00
3	NORTHDD_FEB	3.50	93.10	0.00
4	NORTHDD_MAR	3.63	78.29	0.00
5	NORTHDD_APR	3.28	42.37	0.00
6	NORTHDD_MAY	3.36	18.04	0.00
7	NORTHDD_SEP	1.42	4.04	0.00
8	NORTHDD_OCT	2.97	27.80	0.00
9	NORTHDD_NOV	3.53	59.48	0.00
10	NORTHDD_DEC	3.50	89.38	0.00
11	@TREND	-0.35	-2.47	0.01
12	DUMCOVID	-68.34	-2.59	0.01
13	R-squared	0.99		
14	Adjusted R-squared	0.99		
15	S.E. of regression	92.66		
16	F-statistic	2206.89		0.00

DIAGNOSTIC TESTS

Breusch-Godfrey Serial Correlation LM Test

This test is used to assess for autocorrelation in the residuals. Autocorrelation occurs when disturbances in a regression equation are serially correlated. The test is set up as follows:

Null Hypothesis: No serial correlation

Alternative Hypothesis: Serial correlation

When the test result shows that this assumption is violated, adding an autoregressive term (AR) or trend variable might help to improve regression results.

ARCH Test

This test is used for Autoregressive Conditional Heteroscedasticity (ARCH). ARCH occurs when the variance of disturbances in a regression equation are not constant and are serially correlated. The test is set up as follows:

Null Hypothesis: No ARCH

Alternative Hypothesis: ARCH

When the test result shows that this assumption is violated, adding an autoregressive term (AR) or trend variable or changing the functional form might help to improve regression results.

Chow Forecast Test

This test is used to evaluate for the stability of a regression model. A regression model is not stable if the estimated coefficients change (and consequently, the model's predictions) when estimated over various sample ranges. The test is set up as follows:

Null Hypothesis: No structural change

Alternative Hypothesis: Structural change

When the test result shows that this assumption is violated (most of the time due to the economic recession, unexpected situation (like COVID-19), significant behaviour change etc.), adding a dummy variable to the model might help to improve regression results.

Normalized Average Use By Rate Class

Line No.	Particulars (m^3)	2012 Actual (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)	2019 Actual (h)	2020 Actual (i)	2021 Actual (j)	2022 Estimate (k)	2023 Bridge Year (l)	2024 Test Year (m)
	EGD Rate Zone													
1	Rate 1	2,509	2,482	2,475	2,425	2,392	2,438	2,415	2,403	2,428	2,373	2,349	2,334	2,317
2	Variance / Change		(27)	(6)	(50)	(33)	46	(23)	(12)	24	(54)	(24)	(15)	(17)
3	Variance / Growth Rate		(1.1%)	(0.3%)	(2.0%)	(1.4%)	1.9%	(1.0%)	(0.5%)	1.0%	(2.2%)	(1.0%)	(0.6%)	(0.7%)
4	Rate 6	28,951	28,581	29,363	28,811	27,659	28,570	30,008	29,201	27,987	27,159	28,232	28,042	27,727
5	Variance / Change		(370)	782	(552)	(1,151)	911	1,437	(806)	(1,214)	(829)	1,074	(190)	(316)
6	Variance / Growth Rate		(1.3%)	2.7%	(1.9%)	(4.0%)	3.3%	5.0%	(2.7%)	(4.2%)	(3.0%)	4.0%	(0.7%)	(1.1%)
	Union Rate Zone													
7	Rate M1	2,785	2,801	2,817	2,708	2,652	2,736	2,756	2,775	2,742	2,643	2,712	2,703	2,706
8	Variance / Change		16	16	(109)	(56)	84	20	19	(32)	(99)	69	(10)	3
9	Variance / Growth Rate		0.6%	0.6%	(3.9%)	(2.1%)	3.2%	0.7%	0.7%	(1.2%)	(3.6%)	2.6%	(0.4%)	0.1%
10	Rate M2	169,027	169,497	168,301	164,314	158,540	165,473	167,330	167,068	158,391	148,929	167,127	166,887	163,484
11	Variance / Change		470	(1,196)	(3,987)	(5,773)	6,933	1,857	(262)	(8,677)	(9,462)	18,199	(240)	(3,403)
12	Variance / Growth Rate		0.3%	(0.7%)	(2.4%)	(3.5%)	4.4%	1.1%	(0.2%)	(5.2%)	(6.0%)	12.2%	(0.1%)	(2.0%)
13	Rate 01	2,843	2,821	2,861	2,736	2,682	2,726	2,731	2,741	2,735	2,638	2,670	2,657	2,677
14	Variance / Change		(22)	39	(125)	(53)	44	5	10	(6)	(97)	32	(13)	20
15	Variance / Growth Rate		(0.8%)	1.4%	(4.4%)	(2.0%)	1.6%	0.2%	0.4%	(0.2%)	(3.6%)	1.2%	(0.5%)	0.8%
16	Rate 10	164,677	164,121	168,750	158,476	154,005	157,466	160,130	163,313	153,707	144,582	156,117	155,512	148,753
17	Variance / Change		(556)	4,629	(10,274)	(4,471)	3,461	2,664	3,183	(9,605)	(9,125)	11,535	(605)	(6,759)
18	Variance / Growth Rate		(0.3%)	2.8%	(6.1%)	(2.8%)	2.2%	1.7%	2.0%	(5.9%)	(5.9%)	8.0%	(0.4%)	(4.3%)

Note:

(1) Normalized to 2024 Test Year Forecast HDDs.

Normalized Average Use By Sector

Line No.	Particulars (m^3)	2012 Actual (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)	2019 Actual (h)	2020 Actual (i)	2021 Actual (j)	2022 Estimate (k)	2023 Bridge Year (l)	2024 Test Year (m)
	Enbridge Gas (1)													
1	Residential	2,422	2,405	2,402	2,342	2,315	2,362	2,346	2,348	2,359	2,298	2,291	2,278	2,263
2	Variance / Change		(18)	(3)	(60)	(27)	47	(15)	1	11	(60)	(8)	(12)	(15)
3	Variance / Growth Rate		(0.7%)	(0.1%)	(2.5%)	(1.1%)	2.0%	(0.6%)	0.1%	0.5%	(2.6%)	(0.3%)	(0.5%)	(0.7%)
4	Commercial	22,151	22,108	22,686	22,251	21,566	22,325	23,156	22,934	22,267	21,400	22,545	22,464	22,279
5	Variance / Change		(43)	578	(435)	(685)	759	831	(222)	(667)	(867)	1,146	(82)	(185)
6	Variance / Growth Rate		(0.2%)	2.6%	(1.9%)	(3.1%)	3.5%	3.7%	(1.0%)	(2.9%)	(3.9%)	5.4%	(0.4%)	(0.8%)
7	Industrial	99,372	98,261	100,815	101,288	99,235	101,994	104,626	103,087	93,512	90,397	99,634	99,234	96,600
8	Variance / Change		(1,111)	2,554	474	(2,053)	2,758	2,632	(1,539)	(9,575)	(3,115)	9,237	(400)	(2,634)
9	Variance / Growth Rate		(1.1%)	2.6%	0.5%	(2.0%)	2.8%	2.6%	(1.5%)	(9.3%)	(3.3%)	10.2%	(0.4%)	(2.7%)
10	Non-Residential	25,500	25,334	25,952	25,503	24,707	25,480	26,358	26,009	24,984	23,985	25,417	25,305	25,018
11	Variance / Change		(165)	617	(449)	(795)	772	879	(350)	(1,025)	(999)	1,432	(112)	(287)
12	Variance / Growth Rate		(0.6%)	2.4%	(1.7%)	(3.1%)	3.1%	3.4%	(1.3%)	(3.9%)	(4.0%)	6.0%	(0.4%)	(1.1%)

Notes:

(1) 2012 to 2018 represents the combined values from EGD and Union.

(2) Normalized to 2024 Test Year Forecast HDDs.

GENERAL SERVICE CUSTOMER ADDITIONS & AVERAGE NUMBER OF CUSTOMERS (UNLOCKS) FORECAST

GILMER BASHUALDO-HILARIO, MANAGER ECONOMIC EVALUATION & FORECAST

HULYA SAYYAN, SPECIALIST ECONOMIC EVALUATION & FORECAST

1. The purpose of this evidence is to present and request approval of the 2024 Test Year customer additions forecast, the 2024 Test Year Forecast average number of general service customers and the forecasting methodology. This evidence also presents 2013 to 2018 historical data for EGD and Union, as well as 2019 to 2021 historical years, 2022 Estimate and 2023 Bridge Year Forecast for Enbridge Gas. This evidence only provides customer additions and average number of customers forecast for general service market. The distribution contract market customer forecast is provided at Exhibit 3, Tab 2, Schedule 8, and total distribution customers are provided at Exhibit 3, Tab 3, Schedule 1.

2. All the information shown in this evidence is based on a calendar-year billing period (i.e., on a December year-end basis). The 2024 Test Year Forecast is based on actual data up to and including 2021.

3. This evidence is organized as follows:
    1. Background
    2. Customer Additions Forecast
    3. Average Number of General Service Customers (Unlocks) Forecast

1. Background

4. General service customers in the EGD rate zone are included in Rate 1 and Rate 6, which represent residential and non-residential (commercial[1] and industrial) customers. The residential customer class represents approximately 92% of total general service customers. Non-residential customers represent approximately 8% of total general service customers. Around 75% of the EGD rate zone general service customers reside in the Central weather zone, 17% reside in the East weather zone and 8% reside in the West weather zone.

5. General service customers in the Union rate zones are included in Rate M1, Rate M2, Rate 01 and Rate 10, which represent residential and non-residential (commercial and industrial) customers. Residential customers represent approximately 92% of total general service customers. Non-residential customers represent approximately 8% of total general service customers. Around 76% of the Union rate zones general service customers reside in the South weather zone, and the remaining 24% reside in the North weather zone.

6. In previous annual rate applications, the EGD and Union rate zones used similar processes for forecasting the number of customers. The first step involves determining the customer additions forecast. The average number of customers forecast is then determined using the customer additions forecast and an estimate of customer shrinkage.

7. In the MAADs Decision,[2] the OEB allowed the applicants to continue to use the existing OEB-approved methodologies for the 2018 to 2023 deferred rebasing term.

[1] The EGD rate zone commercial sector includes apartments.
[2] EB-2017-0306/EB-2017-0307, OEB Decision and Order, August 30, 2018.

The OEB also required Enbridge Gas to develop a proposal of a single forecast methodology to be filed with its next cost of service application. In the 2020 Rates Settlement Proposal[3] , Enbridge Gas agreed that as part of its cost of service application, it would file a study (which may be an internal study or a third-party study) examining the various available methodologies, including those currently in use.

8. Enbridge Gas engaged Guidehouse Canada Ltd. (Guidehouse) to complete a natural gas volume forecast approach comparative review study (Guidehouse Study). The Guidehouse Study outlines Guidehouse's understanding of how comparable utility organizations forecast their natural gas volumes, based on publicly available literature and interviews and is provided at Exhibit 3, Tab 2, Schedule 2. The Guidehouse Study indicates that the approaches employed by Enbridge Gas for forecasting the number of general service customers are consistent with the spectrum of approaches used by the comparator utilities as provided at Exhibit 3, Tab 2, Schedule 2, Table 3-6 and Appendix A, Table 4-1.

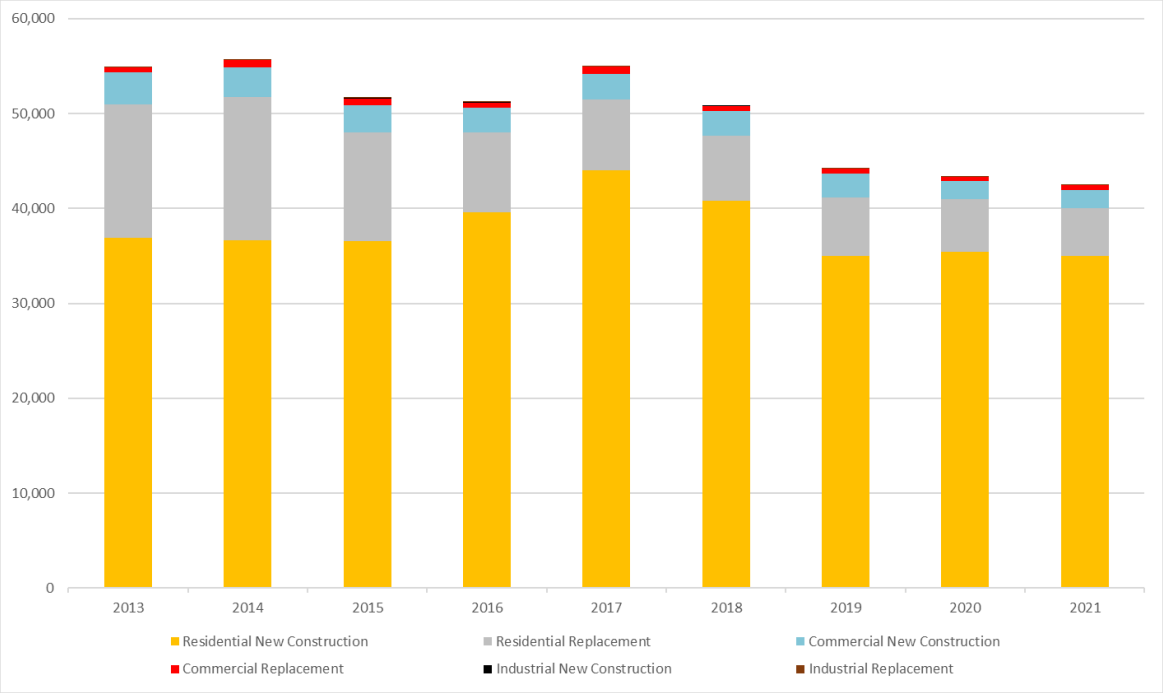
2. Customer Additions Forecast

9. Enbridge Gas proposes to use a combined econometric (top-down) and bottom-up approach to forecast customer additions. This approach is based on several sources, including information gathered through direct contact with builders, developers, and municipalities, as well as economic indicators such as housing starts, Gross Domestic Product (GDP) growth, employment, and mortgage rates. The proposed approach used to develop the forecast is consistent with the approach used by the EGD and Union rate zones in previous rate applications and has been accepted in settlement proposals and OEB decisions.

[3] EB-2019-0194, Exhibit N1, Tab 1, Schedule 1, p.9.

10. The total customer additions forecast was compiled from new construction and replacement[4] additions for each sector, namely the Residential, Commercial, and Industrial sectors. Figure 1 shows historical customer additions by sector.

Figure 1: Enbridge Gas Historical Customer Additions



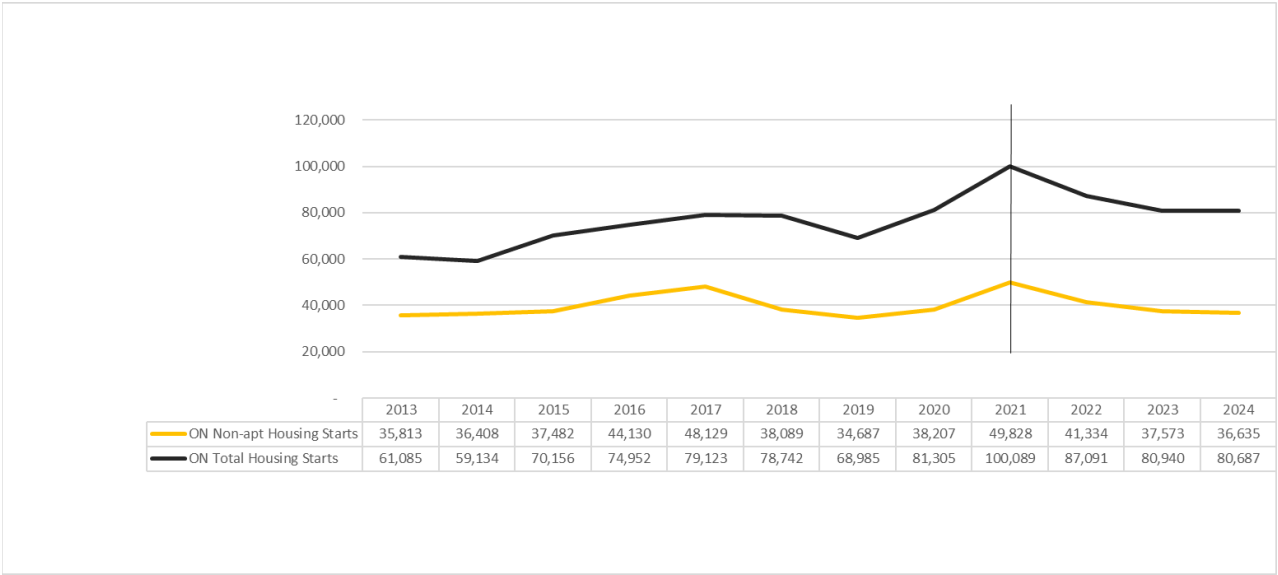
11. The vast majority of total customer additions occur in the residential market. On average, over the past five years, approximately 94% of the Company's total customer additions were residential.

[4] Replacement customers are existing homes and businesses, which switch from other energy sources to natural gas.

12. The residential new construction customer additions forecast was determined using the historical relationship between customer additions and Ontario's non-apartment housing starts[5]. The Consensus Ontario housing starts forecast[6] provided at Exhibit 3, Schedule 2, Tab 4, and historical non-apartment housing starts trend are used to determine the non-apartment housing starts forecast. Figure 2 shows historical housing starts data for the period of 2013 to 2021, the Consensus Ontario housing starts forecast and the estimated non-apartment housing starts for 2022 to 2024. As shown in Figure 2, market share fell to 47% in 2020 from 59% in 2013. Approximately 46% share is anticipated for the forecast period (2022 to 2024). Figure 3 shows the forecast and relationship between non-apartment housing starts and residential new construction customer additions. Non-apartment housing starts, and residential new construction customer additions are highly correlated. Therefore, trends in residential new construction customer additions will largely follow trends in non-apartment housing starts.

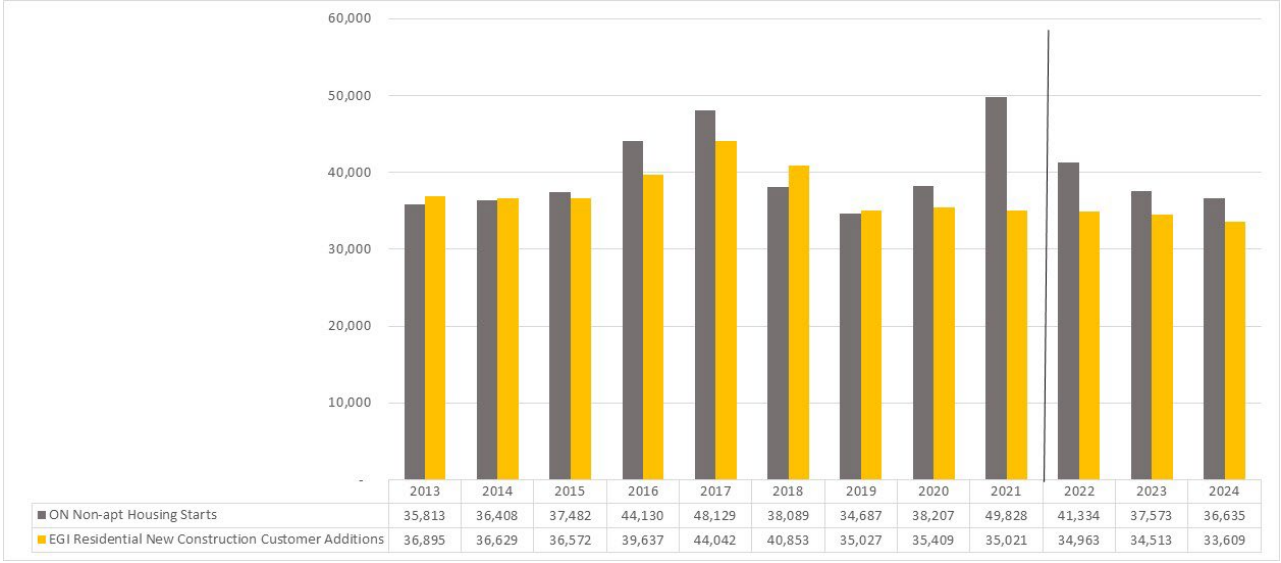
[5] Ontario non-apartment housing starts data is obtained from Canada Mortgage and Housing Corporation. It includes single, semi-detached and row housing (excludes apartment housing).
[6] Obtained from external agencies (i.e. Canada Mortgage and Housing Corporation, Conference Board of Canada and several chartered banks).

Figure 2: Ontario Total & Non-apartment Housing Starts (Actual and Forecast)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ON Non-apt Housing Starts	35,813	36,408	37,482	44,130	48,129	38,089	34,687	38,207	49,828	41,334	37,573	36,635
ON Total Housing Starts	61,085	59,134	70,156	74,952	79,123	78,742	68,985	81,305	100,089	87,091	80,940	80,687

Figure 3: Ontario Non-apartment Housing Starts & Enbridge Gas Residential New Construction Customer Additions (Actual and Forecast)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ON Non-apt Housing Starts	35,813	36,408	37,482	44,130	48,129	38,089	34,687	38,207	49,828	41,334	37,573	36,635
EGI Residential New Construction Customer Additions	36,895	36,629	36,572	39,637	44,042	40,853	35,027	35,409	35,021	34,963	34,513	33,609

13. Housing starts increased dramatically in 2021, reaching levels unseen since the mid-1970s. Some of these units have recently been completed and barring prolonged construction delays (supply chain bottlenecks and labour shortages pose significant challenges), builders are expected to boost completions in 2022 and 2023. As a result, housing activity is expected to remain strong until 2024.

14. The new construction customer additions forecast for the remaining sectors (commercial and industrial) was developed based on historical trend analysis. Replacement customer additions forecast for all sectors was also determined using trend analysis.

15. The initial new construction and the replacement customer forecast, determined using econometric/historical trend approaches, was then reviewed by Enbridge Gas's Construction, Operations, and Sales teams, who gathered market information through direct contact with builders, developers, and municipalities and adjustments were made to the forecast based on this information if required.

16. In early 2020, COVID-19 caused widespread impacts on the global and Canadian economies. In response to the economic impacts stemming from COVID-19, the Bank of Canada lowered interest rates to near historic lows of 0.25 percent[7] in order to support economic activity. The COVID-19 low rate of 0.25 percent continued into early 2022 as a measure to stimulate the economy by encouraging borrowing and investment activity. With inflationary pressures across consumer goods and escalating home prices earlier in the year, the Bank of Canada increased interest rates by 1.25 percentage points in the first half of 2022. With its

[7] From 1.75% on March 3, 2020, to 0.25% on March 27, 2020. Bank of Canada. Canadian Interest Rates and Monetary Policy Variables: 10-Year Lookup. https://www.bankofcanada.ca/core-functions/monetary-policy/key-interest-rate/

announcement on July 13, 2022, the Bank of Canada increased its target for the overnight rate to 2.50 percent to guard against the risk that high inflation becomes entrenched[8]. In 2022 and 2023, interest rates are expected to continue to increase.

17. Attachment 1 represents Enbridge Gas's historical and forecast customer additions for the period 2013 to 2024. Even though the housing starts forecast remains strong, customer additions are expected to remain flat until 2024 due to the economic uncertainties noted previously. Enbridge Gas is forecasting 41,648 new customers for the 2024 Test Year.

18. Enbridge Gas's base customer additions and average number of customers forecast are prepared based on the housing starts forecast and historical trend and adjusted for the factors that are not taken into account in developing the base forecast, including items such as community expansion and energy transition.

19. The Community Expansion forecast is developed based on the customer additions expected from the projects planned for construction in the next 10 years.

20. The 2024 customer additions forecast reflects an adjustment of 321 fewer general service customer additions as a result of energy transition assumptions. Please see Exhibit 1, Tab 10, Schedule 4, Section 1.2 for more details on the energy transition assumptions incorporated in the customer additions forecast. For the 2024 Test Year, the reduction in general service customer additions was applied to the new construction customer forecast.

3. Average Number of General Service Customers (Unlocks) Forecast

[8] Monetary Policy Report, July 2022, https://www.bankofcanada.ca/wp-content/uploads/2022/07/mpr-2022-07-13.pdf

21. Enbridge Gas's forecast of average number of general service customers was derived by adding the annual forecast of customer additions to the latest available annual average number of customers[9]. Estimated customer shrinkage are then subtracted from this number to determine the forecast average number of general service customers.

22. Shrinkage customers are defined as the customers that Enbridge Gas stops getting revenue from (due to meter consolidations, locked customers etc.). The difference between customer additions and year-over-year change in customers between 2014 to 2021 is provided in Table 1. Based on the last five years, Enbridge Gas had an average of 2,200 shrinkage customers annually. In 2024, Enbridge Gas has assumed shrinkage customers to be in line with its five-year average.

Table 1
Enbridge Gas General Service: Shrinkage Customers

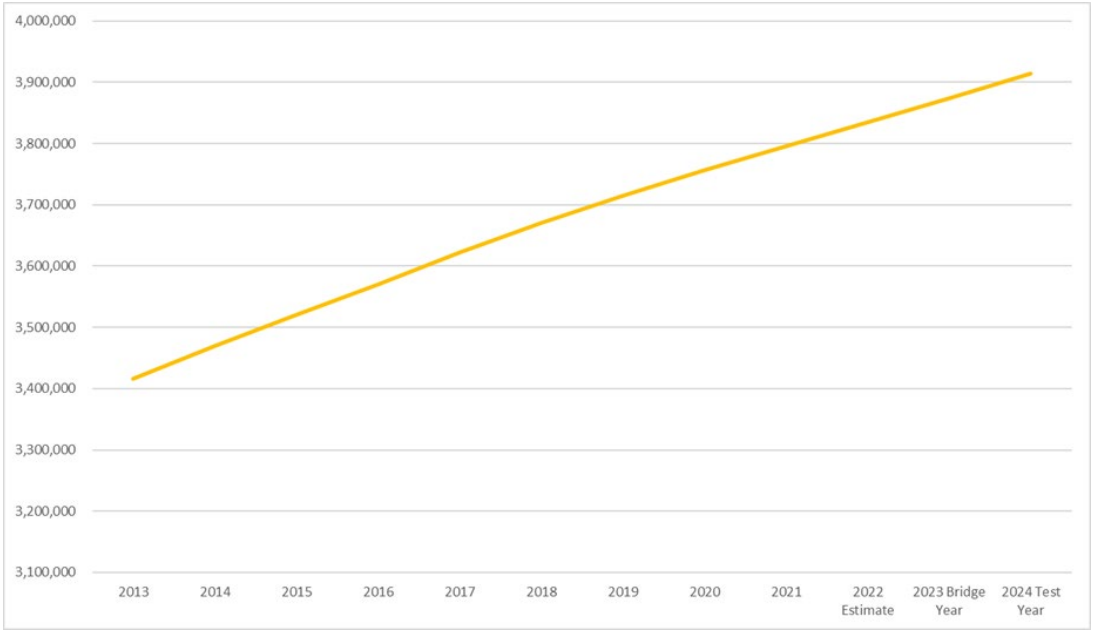
Line No.	Particulars	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Year-over-Year Change in Average Number of Customers	53,644	50,533	49,890	51,425	48,633	44,529	41,104	39,148
2	Customer adds	55,668	51,657	51,224	55,001	50,859	44,194	43,369	42,482
3	Shrinkage Customers	(2,024)	(1,124)	(1,334)	(3,576)	(2,226)	335	(2,265)	(3,334)

23. Figure 4 represents the historical average number of customers for the period of 2013 to 2021, as well as the forecast for 2022 to 2024. In 2021, Enbridge Gas had approximately 3.8 million customers, representing 1.0% growth from 2020.

[9] Year to date data at the time of forecast is used to adjust the forecast if necessary.

24. Attachment 2 shows historical and forecast average number of customers by rate class and sector for the period of 2013 to 2024. During the forecast period, customers are expected to increase by 1.0% annually. This increase is consistent with the historical trend even after considering energy transition assumptions. Please see details of energy transition assumptions impacting customer additions in Exhibit 1, Tab 10, Schedule 4, Section 1.2. Enbridge Gas forecasts it will have an average of 3,913,684 general service customers in the 2024 Test Year.

Figure 4: Enbridge Gas Average Number of General Service Customers



Customer Additions (Actual and Forecast)

Line No.	Sector	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	Residential												
1	New Construction	36,895	36,629	36,572	39,637	44,042	40,853	35,027	35,409	35,021	34,963	34,513	33,609
2	Replacement	14,111	15,128	11,403	8,369	7,465	6,831	6,103	5,537	5,038	5,066	4,878	5,639
3	Total	51,006	51,757	47,975	48,006	51,507	47,684	41,130	40,946	40,059	40,029	39,391	39,248
	Commercial												
4	New Construction	3,318	3,123	2,893	2,648	2,706	2,555	2,553	1,976	1,889	2,082	1,975	1,879
5	Replacement	508	730	725	525	740	582	470	427	476	496	477	489
6	Total	3,826	3,853	3,618	3,173	3,446	3,137	3,023	2,403	2,365	2,578	2,452	2,368
	Industrial												
7	New Construction	68	56	61	42	47	38	40	19	49	35	33	31
8	Replacement	3	2	3	3	1	0	1	1	9	0	3	1
9	Total	71	58	64	45	48	38	41	20	58	35	36	32
10	Total Customer Additions	54,903	55,668	51,657	51,224	55,001	50,859	44,194	43,369	42,482	42,642	41,879	41,648

Average Number of Customers (Actual and Forecast)

Line No.	Rate Class / Sector	2013 Actual (a)	2014 Actual (b)	2015 Actual (c)	2016 Actual (d)	2017 Actual (e)	2018 Actual (f)	2019 Actual (g)	2020 Actual (h)	2021 Actual (i)	2022 Estimate (j)	2023 Bridge Year (k)	2024 Test Year (l)
	EGD Rate Zone												
1	Rate 1	1,869,324	1,901,207	1,930,657	1,959,569	1,990,032	2,017,128	2,042,127	2,064,532	2,087,370	2,111,749	2,135,398	2,158,512
2	Rate 6 (1)	160,265	162,236	163,640	164,698	166,227	167,217	168,192	169,086	169,869	170,672	171,742	172,843
3	Total	2,029,589	2,063,443	2,094,297	2,124,267	2,156,259	2,184,345	2,210,319	2,233,618	2,257,238	2,282,422	2,307,139	2,331,355
	Union Rate Zones												
4	Rate M1	1,056,943	1,070,181	1,083,032	1,097,031	1,111,544	1,127,353	1,141,279	1,154,987	1,167,200	1,178,934	1,190,577	1,202,887
5	Rate M2	6,708	6,944	7,437	7,730	7,553	7,469	7,783	7,863	7,934	7,960	8,011	8,069
6	Rate 01	321,231	327,563	333,773	339,334	344,458	349,354	353,643	357,603	360,849	363,646	366,361	369,169
7	Rate 10	2,043	2,027	2,152	2,219	2,192	2,118	2,144	2,201	2,200	2,198	2,200	2,204
8	Total	1,386,925	1,406,715	1,426,394	1,446,314	1,465,747	1,486,294	1,504,849	1,522,654	1,538,182	1,552,739	1,567,149	1,582,329
	EGI By Sector												
9	Residential	3,138,374	3,188,916	3,237,152	3,285,272	3,334,545	3,381,450	3,424,068	3,463,393	3,501,048	3,539,427	3,576,885	3,613,542
10	Commercial	266,736	269,832	272,217	274,088	276,298	278,094	280,104	281,894	283,413	284,797	286,485	289,171
11	Industrial	11,404	11,410	11,322	11,221	11,163	11,095	10,996	10,985	10,960	10,937	10,918	10,971
12	Total	3,416,514	3,470,158	3,520,691	3,570,581	3,622,006	3,670,639	3,715,168	3,756,272	3,795,420	3,835,160	3,874,288	3,913,684

Note:
(1) Includes Rate 9.

GENERAL SERVICE VOLUME FORECAST

GILMER BASHUALDO HILARIO, MANAGER ECONOMIC EVALUATION & FORECAST

HULYA SAYYAN, SPECIALIST ECONOMIC EVALUATION & FORECAST

1. The purpose of this evidence is to present and request approval for Enbridge Gas's 2024 Test Year general service volumes forecast[1]. This evidence describes the forecasting methodology and key assumptions used to develop the 2024 Test Year volumes forecast for the general service market.

2. This evidence is organized as follows:
    1. Historical and Forecast General Service Volumes
    2. Adjustments to the Forecast

1. Historical and Forecast General Service Volumes

3. Enbridge Gas's total general service volumes for the 2024 Test Year are forecast to be 15,688.2 10^6m^3. Historical general service volumes from 2012 to 2021 normalized to the 2024 Test Year degree day forecast and the volumes forecast for 2022 Estimate, 2023 Bridge Year and 2024 Test Year by rate class and sector are provided at Attachment 1.

4. The base general service volume forecast is derived by multiplying the forecasted number of customers by their respective average use forecasts. The average use and customer forecast are provided at Exhibit 3, Tab 2, Schedule 5 and Exhibit 3, Tab 2, Schedule 6, respectively. This base forecast is then adjusted for forecast Demand Side Management (DSM) activity and other factors that cannot be captured

[1] Volume forecast refers to demand forecast.

through the forecasting methodology[2] to obtain the final total general service volume forecast. This process is described in more detail below.

5. In the MAADs Decision[3], the OEB allowed the applicants to continue to use the existing OEB-approved methodologies for the 2018 to 2023 deferred rebasing term. The OEB also required Enbridge Gas to develop a proposal for a single forecast methodology to be filed with its next cost of service application. In the 2020 Rates Settlement Proposal[4] , Enbridge Gas agreed that as part of its cost of service application, it would file a study (which may be an internal study or a third-party study) examining the various available methodologies, including those currently in use.

6. Enbridge Gas engaged Guidehouse Canada Ltd. (Guidehouse) to complete a natural gas volume forecast approach comparative review study (Guidehouse Study). The Guidehouse Study outlines Guidehouse's understanding of how comparable utility organizations forecast their natural gas volumes, based on publicly available literature and interviews. The Guidehouse Study is provided at Exhibit 3, Tab 2, Schedule 2. The Guidehouse Study indicates that the approach employed by Enbridge Gas for forecasting volumes as the product of forecast customer counts and forecast average use per customer is consistent with the approaches used by the comparator utilities as provided at Exhibit 3, Tab 2, Schedule 2, Table 3-6 and Appendix A, Table 4-1.

[2] Announced government policies in an effort to reduce greenhouse gas (GHG) emissions (energy transition), future building code changes, community expansion rate stability period, etc.
[3] EB-2017-0306/EB-2017-0307, OEB Decision and Order, August 30, 2018.
[4] EB-2019-0194, Exhibit N1, Schedule 1, p.9.

2. Adjustments to the Forecast

7. After the base volume forecast is developed, certain adjustments are applied to the forecast to account for known factors over the forecast period.

8. The general service volume forecast is adjusted for future DSM plan activities. The DSM plan includes programs and targets that Enbridge Gas is planning to achieve in the forecast period. The historical data used to forecast average use/volumes includes DSM, however it doesn't capture Enbridge Gas's future DSM plans. Consequently, expected DSM activity is layered onto the volumetric forecast. The volume forecasts provided at Attachment 1 provide Enbridge Gas's volumetric forecast after DSM adjustments have been applied. DSM volumes used to adjust the base volume forecast are shown in Table 1.

Table 1

DSM Volumes (m^3)

Line No.	Rate Class	Sector	2023 Bridge Year	2024 Test Year
			(a)	(b)
1	Rate 1	Residential	4,154,118	14,475,725
2	Rate 6	Commercial	7,516,533	26,167,183
3	Rate 6	Industrial	2,904,116	10,109,120
4	Rate 01	Residential	491,106	1,710,807
5	Rate 01	Commercial	251,214	878,224
6	Rate 01	Industrial	2,154	7,490
7	Rate 10	Commercial	240,701	840,593
8	Rate 10	Industrial	90,291	314,309
9	Rate M1	Residential	2,526,575	8,814,919
10	Rate M1	Commercial	688,702	2,395,766
11	Rate M1	Industrial	134,366	467,340
12	Rate M2	Commercial	1,090,892	3,803,742
13	Rate M2	Industrial	1,871,094	6,513,515
14		Residential	7,171,799	25,001,451
15		Non-Residential	14,790,063	51,497,280
16		Total	21,961,862	76,498,732

General Service Normalized Volumes (By Rate Class)

Line No.	Particulars (10^6m^3)	2012 Actual (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)	2019 Actual (h)	2020 Actual (i)	2021 Actual (j)	2022 Forecast (k)	2023 Forecast (l)	2024 Forecast (m)
	EGD Rate Zone													
1	Rate 1	4,609.0	4,640.2	4,707.0	4,684.2	4,688.7	4,851.5	4,871.7	4,904.4	5,011.9	4,953.5	4,960.2	4,984.2	5,001.0
2	Variance / Change		31	67	(23)	5	163	20	33	107	(58)	7	24	17
3	Variance / Growth Rate		0.7%	1.4%	(0.5%)	0.1%	3.5%	0.4%	0.7%	2.2%	(1.2%)	0.1%	0.5%	0.3%
4	Rate 6	4,617.1	4,608.4	4,790.3	4,741.0	4,579.0	4,762.5	5,037.7	4,923.7	4,744.6	4,619.2	4,820.6	4,819.3	4,795.7
5	Variance / Change		(9)	182	(49)	(162)	184	275	(114)	(179)	(125)	201	(1)	(24)
6	Variance / Growth Rate		(0.2%)	3.9%	(1.0%)	(3.4%)	4.0%	5.8%	(2.3%)	(3.6%)	(2.6%)	4.4%	(0.0%)	(0.5%)
	Union Rate Zone													
7	Rate M1	2,902.6	2,957.7	3,012.3	2,931.3	2,907.0	3,037.8	3,103.1	3,164.7	3,166.1	3,083.2	3,198.0	3,218.1	3,255.1
8	Variance / Change		55	55	(81)	(24)	131	65	62	1	(83)	115	20	37
9	Variance / Growth Rate		1.9%	1.8%	(2.7%)	(0.8%)	4.5%	2.1%	2.0%	0.0%	(2.6%)	3.7%	0.6%	1.1%
10	Rate M2	1,123.9	1,140.7	1,167.4	1,204.4	1,224.8	1,256.2	1,247.7	1,295.0	1,246.2	1,179.9	1,330.9	1,337.1	1,319.4
11	Variance / Change		17	27	37	20	31	(9)	47	(49)	(66)	151	6	(18)
12	Variance / Growth Rate		1.5%	2.3%	3.2%	1.7%	2.6%	(0.7%)	3.8%	(3.8%)	(5.3%)	12.8%	0.5%	(1.3%)
13	Rate 01	897.6	906.1	936.9	912.9	909.9	938.5	953.8	969.2	978.0	951.2	971.3	974.0	989.0
14	Variance / Change		9	31	(24)	(3)	29	15	15	9	(27)	20	3	15
15	Variance / Growth Rate		0.9%	3.4%	(2.6%)	(0.3%)	3.1%	1.6%	1.6%	0.9%	(2.7%)	2.1%	0.3%	1.5%
16	Rate 10	342.6	337.8	342.4	337.5	343.0	348.0	339.4	348.2	337.5	317.7	342.7	342.3	328.0
17	Variance / Change		(5)	5	(5)	6	5	(9)	9	(11)	(20)	25	(0)	(14)
18	Variance / Growth Rate		(1.4%)	1.3%	(1.4%)	1.6%	1.4%	(2.5%)	2.6%	(3.1%)	(5.8%)	7.9%	(0.1%)	(4.2%)
19	Total General Service Volumes	14,492.8	14,590.9	14,956.3	14,811.2	14,652.4	15,194.4	15,553.4	15,605.3	15,484.1	15,104.8	15,623.7	15,675.0	15,688.2

Note:

(1) All normalized based on 2024 Forecast HDDs.

General Service Normalized Volumes (By Sector)

Line No.	Particulars (10^6m^3)	2012 Actual (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)	2019 Actual (h)	2020 Actual (i)	2021 Actual (j)	2022 Estimate (k)	2023 Bridge Year (l)	2024 Test Year (m)
	EGI													
	Residential													
1	Residential	7,476.4	7,544.4	7,657.6	7,580.1	7,603.2	7,870.0	7,930.9	8,034.1	8,166.9	8,044.3	8,107.0	8,149.4	8,179.3
2	Variance / Change		68	113	(78)	23	267	61	103	133	(123)	63	42	30
3	Variance / Growth Rate		0.9%	1.5%	(1.0%)	0.3%	3.5%	0.8%	1.3%	1.7%	(1.5%)	0.8%	0.5%	0.4%
	Non-Residential													
4	Commercial	5,872.9	5,921.1	6,144.9	6,080.2	5,932.0	6,183.1	6,458.0	6,436.1	6,289.1	6,069.5	6,425.9	6,441.2	6,448.1
5	Variance / Change		48	224	(65)	(148)	251	275	(22)	(147)	(220)	356	15	7
6	Variance / Growth Rate		0.8%	3.8%	(1.1%)	(2.4%)	4.2%	4.4%	(0.3%)	(2.3%)	(3.5%)	5.9%	0.2%	0.1%
7	Industrial	1,143.5	1,125.4	1,153.7	1,150.9	1,117.2	1,141.3	1,164.5	1,135.1	1,028.1	990.9	1,090.7	1,084.5	1,060.9
8	Variance / Change		(18)	28	(3)	(34)	24	23	(29)	(107)	(37)	100	(6)	(24)
9	Variance / Growth Rate		(1.6%)	2.5%	(0.2%)	(2.9%)	2.1%	2.0%	(2.5%)	(9.4%)	(3.6%)	10.1%	(0.6%)	(2.2%)
10	Non-Residential	7,016.4	7,046.5	7,298.7	7,231.1	7,049.2	7,324.4	7,622.5	7,571.1	7,317.2	7,060.5	7,516.7	7,525.7	7,508.9
11	Variance / Change		30	252	(68)	(182)	275	298	(51)	(254)	(257)	456	9	(17)
12	Variance / Growth Rate		0.4%	3.6%	(0.9%)	(2.5%)	3.9%	4.1%	(0.7%)	(3.4%)	(3.5%)	6.5%	0.1%	(0.2%)
13	Total General Service Volumes	14,492.8	14,590.9	14,956.3	14,811.2	14,652.4	15,194.4	15,553.4	15,605.3	15,484.1	15,104.8	15,623.7	15,675.0	15,688.2

Note:

(1) Volumes normalized to 2024 Test Year Forecast heating degree days.

DISTRIBUTION CONTRACT MARKET CUSTOMER AND VOLUME FORECAST
RACHEL GOODREAU, MANAGER REVENUE AND COST OF GAS

1. The purpose of this evidence is to present and request approval of Enbridge Gas's 2024 Test Year distribution contract market customer and volume forecast, as well as approval to harmonize the distribution contract market forecasting methodology. This evidence also provides Enbridge Gas's forecast of volumes and customers for the distribution contract market for 2022 to 2024 and compares the forecast to historical annual customer count and volumes since 2013. The evidence will describe relevant market trends and factors that influence natural gas consumption in the distribution contract market as well as the forecast process for this market.

2. This evidence is organized as follows:

    1. Background
    2. Existing Forecast Methodology
    3. Proposed Harmonized Forecast Methodology
    4. Forecast Process
    5. Forecast of Throughput Volumes and Customers

1. Background

3. Enbridge Gas's Distribution In-franchise Sales department manages all distribution contract rate class customers and is responsible for selling regulated services to these customers within the Enbridge Gas franchise area. The volume and customer forecasts in this evidence apply to the following rate classes:

    a) EGD rate zone – Rates 100, 110, 115, 125, 135 145, 170, 200, 300, 315, and 316
    b) Union South rate zone – Rates M4, M5, M7, M9, M10, T1, T2 and T3
    c) Union North rate zone – Rates 20, 25, and 100

4. Enbridge Gas segments the distribution contract customer market into several sectors. This allows Enbridge Gas to group similar customers together for use within internal management reporting and to enable more meaningful analysis and understanding of the trends and factors impacting customers within the customer segments. The sectors include automotive, buildings, chemical, food & beverage, greenhouse – agricultural, manufacturing, mining, other, power, pulp & paper, refining, and steel.

5. In 2021, Enbridge Gas's distribution contract market accounted for approximately 44% of the total in-franchise throughput and 11% of in-franchise delivery revenue. Within the distribution contract market, Union's Rate 100, 125 and T2 classes represent Enbridge Gas's largest 41 customers and account for approximately 56% of total distribution contract customer throughput and 25% of total in-franchise throughput. These large customers are sophisticated major consumers of energy that operate in a highly competitive North American and global market. It is anticipated that the distribution contract market will continue to represent a similar portion of Enbridge Gas's in-franchise throughput and delivery revenue through 2022 to 2024.

6. There are several key factors that impact the distribution contract market and are inherent in the customer and volume forecast derived for that market. These include:
    a) Economic indicators such as interest rates, inflation and gross domestic product (GDP);
    b) Impact of the Canadian dollar on export markets and industrial manufacturing production;

c) General economic activity and outlook, including the impacts to supply and demand;
d) Credit risk;
e) Natural gas prices;
f) Alternative energy sources and energy transition impacts, including switching from higher carbon fuels, utilization of RNG, and hydrogen blending. Please see Exhibit 1, Tab 10, Schedule 6 for more detail; and
g) Trade agreements, such as the United States-Mexico-Canada Agreement, influencing trade of certain products.

7. Relevant economic and financial assumptions impacting Enbridge Gas and its customers over the forecast period have been provided at Exhibit 3, Tab 2, Schedule 4.

2. Existing Forecast Methodology

8. Enbridge Gas in the EGD rate zone historically used a bottom-up forecast[1]. The bottom-up forecast can be described as the sum of a probability-weighted forecast for new contracted consumption volume and forecast existing contracted consumption volume, adjusted per the input of account managers.

9. Enbridge Gas in the Union rate zones historically used a combination of two methodologies: an econometric forecast for the small to mid-sized distribution contract market customers and a detailed bottom-up forecast for larger distribution contract market customers[2]. The econometric approach used regression analysis to estimate the relationship between consumption and the variable impact of weather.

[1] EB-2011-0354, Exhibit C1, Tab 3, Schedule 1, p.7.
[2] EB-2011-0210, Exhibit C1, Tab 2, p.4.

3. Proposed Harmonized Forecast Methodology

10. Enbridge Gas proposes to develop the customer and volume forecast for all customers in the distribution contract market through customer specific bottom-up forecasts for existing and forecasted new customers, where new customers are explicitly identified. The customer specific forecast is supplemented by non-customer specific adjustments to reflect the impact of Demand Side Management (DSM), sector level growth (not underpinned by specifically identified customers), and other non-customer specific opportunities or risks based on historical experience.

11. The proposed harmonized forecast methodology aligns and simplifies the approaches used previously in the EGD and Union rate zones. Enbridge Gas is recommending the discontinuation of adjusting the forecast under the econometric model relating to the impact of weather. Consumption for most of the distribution contract market customers is process driven and not weather sensitive. As such, adjustments applied to the forecast under the econometric model relating to impact of weather are immaterial.

12. The customer specific bottom-up forecast approach is a generally accepted forecasting practice within the industry and amongst Enbridge Gas's peer group. In the Natural Gas Volume Forecasting Benchmarking Study (Guidehouse Study) completed by Guidehouse Inc. (Guidehouse) provided at Exhibit 3, Tab 2, Schedule 2, page 22 the bottom-up forecast is described as "the sum of a probability weighted forecast of new contracted consumption volume, adjusted per the input of the Account Executives". An assessment was provided of the distribution contract market volume forecasting methodologies used by 10 other utilities. Guidehouse

noted that "……comparator utilities rely heavily on the qualitative expertise of utility and customer staff…..consistent with Enbridge Gas's "grass roots" approach and is a common and well-documented utility forecasting process" as provided at Exhibit 3, Tab 2, Schedule 2, page 22. The Guidehouse Study also indicated that Enbridge Gas's proposed use of a customer-specific bottom-up approach is consistent with the approach used by many of the comparator utilities to forecast the consumption of their largest volume customers. Please see Exhibit 3, Tab 2, Schedule 2, Appendix A, Table 4-1.

4. Forecast Process

13. This section summarizes the key steps followed to derive the 2024 Test Year Forecast for volumes and customers for the distribution contract market, using the proposed methodology discussed in Section 3. The process includes the incorporation of additional adjustments as well as alignment with the Asset Management Plan (AMP) and the DSM Plan.

14. For existing customers, the Enbridge Gas account executive/account manager seeks input from the customer when formulating the forecast. The forecast is then developed using a combination of historical consumption information and knowledge of specific customer operational plans and expectations.

15. The forecast for new customers is based on two main sources of information. First, the forecast includes new customers and associated volumes relating to discrete capital projects included in the AMP and capital budget for projects that are anticipated to go into service in the forecast period. The forecast for these capital projects is based on existing customers within the project area of benefit and new customers that have been identified through project development efforts such as

expressions of interest or customer requests for capacity received by Enbridge Gas. Project development efforts include engagement with customers for the purposes of developing a forecast. Second, the forecast includes new customers and volumes based on customer requests for connection or modification that are highly likely to materialize and do not require a capital investment.

16. As the distribution contract market customer and volume forecasts for existing and new customers are derived from customer specific intelligence, energy transition impacts are inherent in the proposed forecast methodology and do not require additional consideration or adjustment.

17. Enbridge Gas's customer and volume forecast also includes assumptions and adjustments that are not related to specific customers. These include the following:
    a) DSM assumptions: The volume forecast includes an adjustment for DSM consistent with the level of abatement forecast within the proposed Multi-Year DSM Plan[3]. The first year of the volume forecast includes adjustments for DSM that factor in the timing of DSM abatement projects being put into service throughout the year. Future years of the volume forecast include the cumulation of the full year impact of prior year DSM abatement activities in addition to the impact of the new abatement activities for that year.
    b) Sector level growth: Incremental growth is forecasted for the greenhouse sector which historically has experienced a consistent growth trend. A forecast is created at the sector level for the greenhouse market for the customer and volume forecast, as specific customers are not known at the time of finalizing the customer and volume forecasts.

[3] EB-2021-0002.

c) Historical growth and volume declines: Analysis is completed to assess historical customer and volume growth and reduction trends to determine whether further adjustments are appropriate. This is based on:
   i. Review of historical data for de-contracting, terminations and bankruptcies to forecast the impact of these on a forward basis; and
   ii. Consideration of the impact of demand and supply factors within customer sectors, economic indicators and trends, such as inflation, unemployment, and job growth, as well as national and global factors such as sector specific government support, stimulus spending, and energy prices to assess economic strength of the markets that the distribution contract market customers operate within.

5. Forecast of Throughput Volumes and Customers

18. The volume and customer forecasts for the distribution contract market are provided at Attachments 1 and 2. Year-over-year variances for the volume and customer forecasts are provided at Exhibit 3, Tab 3, Schedule 1, Attachment 10 and Exhibit 3, Tab 3, Schedule 1, Attachment 6, respectively.

19. Variance explanations described in this evidence are provided by sector, as described previously in evidence. However, this evidence also provides customers and volumes by rate class, to underpin other processes, such as cost allocation and rate design, that are dependant on rate class level detail.

20. The 2024 Test Year volume forecast for the contract market is 12,234,665 10^3m^3. The 207,891 10^3m^3 increase from the 2023 Bridge Year to the 2024 Test Year Forecast is primarily resulting from the power sector due to forecast higher utilization of natural gas power generation sites, the greenhouse sector from new

and existing customer expansions, and the mining sector due to new customer moving to full capacity.

21. The 2023 Bridge Year volume forecast for the contract market is 12,026,774 10^3m^3. The 836,157 10^3m^3 increase from the 2022 Estimate to the 2023 Bridge Year Forecast is primarily resulting from the power sector due to forecast higher utilization of natural gas power generation sites, the chemical sector from existing customer expansions and plant turnaround activities that reduced consumption in 2022, and the steel sector due to higher production forecasts, partially offset by reductions in other relating to assumption of forecasted decline in volumes and lower consumption from wholesale customers.

22. The 2022 Estimate volume forecast for the contract market is 11,190,617 10^3m^3. The 162,342 10^3m^3 decrease from the 2021 actual to the 2022 Estimate Forecast is primarily resulting from the steel sector due to production demand spike experienced in 2021 and 2022 Estimate having stronger correlation to the 3 year actual average.

23. The 2021 actual volume for the contract market is 11,352,959 10^3m^3. The 953,275 10^3m^3 increase from the 2020 actual to the 2021 actual is primarily resulting from power sector due to higher utilization of natural gas power generation sites, steel sector due to spike in production demand, and load growth in chemical, greenhouse, manufacturing and buildings from new and existing customers.

24. The 2020 actual volume for the contract market is 10,399,684 10^3m^3. The 14,818 10^3m^3 decrease from the 2019 actual to the 2020 actual is primarily resulting from plant turnarounds in the steel sector, as well as slowed production across chemical, manufacturing, mining, and other sectors. The decreases are partially offset by

increased demands in refining activity, and greenhouse sector new and existing customer expansions.

25. The 2024 Test Year customer forecast for the contract market is 1,028. The decrease of two customers from the 2023 Bridge Year to the 2024 Test Year Forecast is due to the proposal to eliminate Rate M10 service, a contract termination in the power sector, offset by forecast new customer in the manufacturing sector.

26. The 2023 Bridge Year customer forecast for the contract market is 1,030. The decrease of 10 customers from the 2022 Estimate to the 2023 Bridge Year Forecast is due to the reduced Rate 25, offset by forecast contract growth primarily in Rate 110 across multiple sectors.

27. The 2022 Estimate customer forecast for the contract market is 1,040. The increase of four customers from the 2021 actual to the 2022 Estimate Forecast is primarily due to higher Rate 25, and growth from new customers across multiple sectors, partially offset by lower count in the EGD rate zone. There is no notable change in any particular sectors.

28. The 2021 actual customers for the contract market is 1,036. The increase of 67 customers from the 2020 actual to the 2021 actual is due to growth primarily in the buildings sector and other sector from both new customers and customers switching from general service to contract rates.

29. The 2020 actual customers for the contract market is 969. The increase of 64 customers from the 2019 actual to the 2020 actual is due to growth primarily in the

buildings, other, food & beverage and greenhouse - agricultural sectors from both new customers and customers switching from general service to contract rates.

Throughput Volumes - Distribution Contract Market Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2013 OEB Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Rate 100	EGD	0	3,200	4,400	3,700	3,200	1,200	2,100
2	Rate 110	EGD	487,600	522,300	528,400	667,900	827,600	798,200	845,900
3	Rate 115	EGD	539,400	568,600	539,400	512,200	497,600	508,600	499,400
4	Rate 125	EGD	0	830,883	738,469	726,900	617,490	227,478	507,609
5	Rate 135	EGD	55,200	55,400	62,700	68,600	64,600	66,000	62,600
6	Rate 145	EGD	152,800	166,500	141,700	77,500	45,700	46,100	43,300
7	Rate 170	EGD	516,400	496,800	454,900	394,800	302,200	312,700	328,100
8	Rate 200	EGD	163,100	184,300	183,200	176,400	169,600	173,900	184,400
9	Rate 300	EGD	0	1,014	403	493	544	461	418
10	Rate 315	EGD	0	0	0	0	0	0	0
11	Total - EGD Rate Zone		1,914,500	2,828,998	2,653,571	2,628,493	2,528,534	2,134,639	2,473,827
12	Rate M4	Union	404,678	474,815	484,404	457,328	471,413	549,760	656,761
13	Rate M7	Union	147,143	172,283	392,256	427,707	474,216	507,692	513,836
14	Rate M9	Union	60,750	63,240	67,138	66,583	72,124	69,174	78,946
15	Rate M10	Union	189	284	312	300	248	274	410
16	Rate 20	Union	629,802	650,968	535,626	540,839	564,912	501,499	478,104
17	Rate 100	Union	1,895,488	1,926,579	1,710,928	1,398,114	1,365,738	1,029,145	1,038,045
18	Rate T1	Union	548,986	452,838	470,811	442,947	447,127	458,243	466,596
19	Rate T2	Union	4,880,297	4,241,475	4,305,103	4,368,501	4,212,740	3,762,498	4,101,435
20	Rate T3	Union	272,712	273,597	288,979	263,235	250,167	257,343	279,794
21	Rate M5	Union	535,132	524,481	259,358	208,631	194,162	140,648	74,007
22	Rate 25	Union	159,555	215,467	186,550	144,313	116,847	106,997	156,126
23	Rate 30	Union	0	0	0	0	0	0	0
24	Total - Union Rate Zone		9,534,732	8,996,027	8,701,465	8,318,498	8,169,694	7,383,273	7,844,060
25	Total Contract Volume		11,449,232	11,825,025	11,355,036	10,946,991	10,698,228	9,517,912	10,317,887

Throughput Volumes - Distribution Contract Market Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
1	Rate 100	EGI	15,377	20,111	33,994	26,965	28,090	27,429
2	Rate 110	EGI	875,396	981,141	1,101,890	1,111,051	1,074,372	1,068,281
3	Rate 115	EGI	441,616	378,039	387,697	367,381	386,039	381,873
4	Rate 125	EGI	591,623	523,436	707,660	690,079	824,971	824,971
5	Rate 135	EGI	63,020	65,287	63,112	55,771	55,486	52,646
6	Rate 145	EGI	30,440	23,396	24,785	19,073	15,331	15,714
7	Rate 170	EGI	286,358	247,430	255,701	277,330	322,426	323,254
8	Rate 200	EGI	196,879	189,473	192,010	201,047	186,602	188,852
9	Rate 300	EGI	349	262	269	139	0	0
10	Rate 315	EGI	0	0	0	0	0	0
11	Total - EGD Rate Zone		2,501,058	2,428,575	2,767,118	2,748,835	2,893,316	2,883,020
12	Rate M4	EGI	674,011	621,380	610,808	596,466	598,163	593,900
13	Rate M7	EGI	541,343	618,372	686,353	718,754	749,542	789,737
14	Rate M9	EGI	103,989	88,765	90,096	89,547	90,073	90,073
15	Rate M10	EGI	391	360	320	341	329	0
16	Rate 20	EGI	522,900	778,476	637,600	811,568	839,751	929,101
17	Rate 100	EGI	1,020,510	996,605	958,587	1,006,653	1,036,696	1,076,378
18	Rate T1	EGI	437,372	430,312	453,007	423,268	434,564	431,289
19	Rate T2	EGI	4,136,389	4,017,975	4,700,474	4,359,326	4,962,964	5,005,643
20	Rate T3	EGI	283,374	264,209	241,187	277,095	249,200	249,200
21	Rate M5	EGI	73,965	61,817	63,511	61,664	60,802	59,493
22	Rate 25	EGI	119,200	92,838	143,898	97,099	111,374	126,831
23	Rate 30	EGI	0	0	0	0	0	0
24	Total - Union Rate Zone		7,913,444	7,971,109	8,585,841	8,441,782	9,133,458	9,351,645
25	Total Contract Volume		10,414,502	10,399,684	11,352,959	11,190,617	12,026,774	12,234,665

Throughput Volumes - Distribution Contract Market Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	Contract - Sector							
26	Automotive	EGI	186,181	186,802	179,967	189,115	200,474	214,930
27	Buildings	EGI	526,141	542,150	591,355	640,572	643,146	642,128
28	Chemical	EGI	1,644,708	1,608,227	1,689,380	1,695,446	2,015,061	2,013,902
29	Food & Beverage	EGI	751,934	762,623	779,697	766,720	776,224	774,166
30	Greenhouse - Agricultural	EGI	586,862	632,603	689,721	725,449	756,500	816,729
31	Manufacturing	EGI	733,716	706,036	758,462	720,196	752,042	749,817
32	Mining	EGI	347,841	334,362	313,157	339,823	343,877	406,498
33	Other	EGI	649,352	628,324	624,800	578,305	470,953	421,610
34	Power	EGI	1,552,060	1,564,142	1,975,099	1,928,645	2,298,498	2,427,690
35	Pulp & Paper	EGI	526,282	552,620	560,152	609,426	623,810	623,250
36	Refining	EGI	1,383,051	1,467,050	1,457,273	1,435,427	1,450,521	1,454,573
37	Steel	EGI	1,526,373	1,414,744	1,733,896	1,561,491	1,695,668	1,689,373
38	Total Volume		10,414,502	10,399,684	11,352,959	11,190,617	12,026,774	12,234,665

Average Customers - Distribution Contract Market Sales & T-Service

Line No.	Particulars	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Rate 100	EGD	0	4	2	2	2	3	3
2	Rate 110	EGD	201	192	191	227	269	263	274
3	Rate 115	EGD	30	27	30	25	27	27	26
4	Rate 125	EGD	5	5	5	5	5	4	4
5	Rate 135	EGD	38	41	43	42	45	45	43
6	Rate 145	EGD	108	104	86	52	38	37	33
7	Rate 170	EGD	38	35	34	26	25	26	27
8	Rate 200	EGD	1	1	1	1	1	1	1
9	Rate 300	EGD	3	3	2	2	2	2	2
10	Rate 315	EGD	0	0	0	2	2	1	1
11	Total - EGD Rate Zone		424	412	394	384	416	409	414
12	Rate M4	Union	115	143	149	156	165	185	208
13	Rate M7	Union	4	4	24	28	28	30	30
14	Rate M9	Union	3	2	2	2	2	3	3
15	Rate M10	Union	2	2	2	2	2	2	3
16	Rate 20	Union	63	48	48	50	47	46	44
17	Rate 100	Union	17	15	14	10	11	11	11
18	Rate T1	Union	35	38	37	37	37	37	37
19	Rate T2	Union	29	22	22	22	22	23	24
20	Rate T3	Union	1	1	1	1	1	1	1
21	Rate M5	Union	144	121	92	80	72	59	38
22	Rate 25	Union	92	88	84	80	78	79	78
23	Rate 30	Union	0	0	1	0	0	0	0
24	Total - Union Rate Zone		505	484	476	468	465	476	477
25	Total Contract Customers		929	896	870	852	881	885	891

Average Customers - Distribution Contract Market Sales & T-Service

Line No.	Particulars	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
1	Rate 100	EGI	4	9	15	15	14	14
2	Rate 110	EGI	282	335	392	396	416	416
3	Rate 115	EGI	22	20	21	16	22	22
4	Rate 125	EGI	4	4	4	4	4	4
5	Rate 135	EGI	43	40	42	41	41	41
6	Rate 145	EGI	26	22	19	13	16	16
7	Rate 170	EGI	23	21	22	17	22	22
8	Rate 200	EGI	0	1	1	1	1	1
9	Rate 300	EGI	1	2	2	2	0	0
10	Rate 315	EGI	0	0	0	0	0	0
11	Total - EGD Rate Zone		405	454	517	505	536	536
12	Rate M4	EGI	232	239	230	228	225	225
13	Rate M7	EGI	36	47	56	62	62	61
14	Rate M9	EGI	4	4	4	4	4	4
15	Rate M10	EGI	2	2	2	2	2	0
16	Rate 20	EGI	54	57	58	60	62	62
17	Rate 100	EGI	12	12	12	12	12	12
18	Rate T1	EGI	37	39	39	39	39	39
19	Rate T2	EGI	25	25	25	25	25	26
20	Rate T3	EGI	1	1	1	1	1	1
21	Rate M5	EGI	42	38	39	37	38	38
22	Rate 25	EGI	55	52	52	65	25	25
23	Rate 30	EGI	0	0	0	0	0	0
24	Total - Union Rate Zone		500	515	519	535	494	492
25	Total Contract Customers		905	969	1,036	1,040	1,030	1,028

Average Customers - Distribution Contract Market Sales & T-Service

Line No.	Particulars	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	Contract - Sector							
26	Automotive	EGI	6	7	8	8	8	8
27	Buildings	EGI	155	176	215	215	216	216
28	Chemical	EGI	58	58	56	56	57	57
29	Food & Beverage	EGI	149	156	160	161	159	159
30	Greenhouse - Agricultural	EGI	133	141	144	145	145	145
31	Manufacturing	EGI	233	236	229	230	229	230
32	Mining	EGI	25	25	24	24	24	24
33	Other	EGI	21	40	64	63	57	55
34	Power	EGI	35	37	40	41	40	39
35	Pulp & Paper	EGI	68	70	71	71	70	70
36	Refining	EGI	7	8	8	8	8	8
37	Steel	EGI	17	17	17	18	17	17
38	Total Contract Customers		905	969	1,036	1,040	1,030	1,028

ACCURACY OF THROUGHPUT FORECAST & VARIANCE ANALYSIS

GILMER BASHUALDO-HILARIO, MANAGER ECONOMIC EVALUATION & FORECAST

RACHEL GOODREAU, MANAGER REVENUE AND COST OF GAS

1. The purpose of this evidence is to address the filing requirement to demonstrate the historical accuracy of the throughput forecast relating to the OEB-approved throughput volumes, revenues and customer counts. Enbridge Gas has been operating under the price cap mechanism framework since amalgamation in 2019, where no historical OEB-approved volumes were required. As such, the determination of the historical accuracy of the throughput forecast in relation to OEB-approved throughput volumes, revenues and customer count is not applicable.

2. The filing requirement is addressed in this Exhibit through the provision of normalized throughput volumes and normalized gas supply and delivery revenues for the 2013 to 2021 historical years as well as the 2022 Estimate, 2023 Bridge Year and 2024 Test Year Forecast, as provided at Attachments 1 and 3. This Exhibit also includes relevant discussion and variance analyses on a year-over-year basis for the 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year and 2024 Test Year. The details of the year-over-year variances are provided at Attachments 2 and 4.

3. All normalized throughput volumes and gas supply and delivery revenues in this Exhibit have been normalized based on current approved methodologies and degree day forecasts for the respective year, with the exception of the 2024 Test Year, which uses the proposed degree day forecast provided at Exhibit 3, Tab 2, Schedule 3.

4. This evidence also includes details of average customer count, unnormalized throughput volumes, and unnormalized gas supply and delivery revenues for the 2013 to 2021 historical years as well as the 2022 Estimate, 2023 Bridge and 2024 Test Year Forecast, as provided at Attachments 5, 7, and 9. Year-over-year variances for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge and 2024 Test Year are provided at Attachments 6, 8 and 10.

5. Discussion of average customer count has been provided at Exhibit 3, Tab 2, Schedules 6 and 8. Discussion of unnormalized volumes for the distribution contract market has been provided at Exhibit 3, Tab 2, Schedule 8. Discussion of unnormalized revenues has been provided at Exhibit 3, Tab 2, Schedule 1. As such, the commentary provided in the remainder of this Exhibit is focused on normalized throughput volumes and normalized gas supply and delivery revenues. The commentary also includes a brief discussion regarding unnormalized volumes for the general service market for the 2020 to 2021 historic and 2022 Estimate.

6. This evidence is organized as follows:
    1. Normalized throughput volumes
        a) General Service
        b) Distribution Contract Market
    2. Normalized gas supply and delivery revenues
        a) General Service
        b) Distribution Contract Market

1. Normalized Throughput Volumes

1.1. General Service

7. The level of normalized throughput volumes for the general service market on a historical and forecast basis is primarily driven by the number of customers and the average use.

8. Discussion regarding average use for the general service market on a historical and forecast basis, weather normalized to 2024 Test Year degree days is provided at Exhibit 3, Tab 2, Schedule 5. Extended discussion regarding customer count for the general service market on a historical and forecast basis is provided at Exhibit 3, Tab 2, Schedule 6. A summarized version of the normalized volumes for general service and year-over-year variances are provided in Table 1.

Table 1
Throughput Volumes - Normalized - General Service

Line No.	Particulars (10^3m^3)	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
1	EGD Rate Zone	9,982,112	9,840,293	9,723,254	9,927,024	9,932,581	9,796,721
2	Union Rate Zones	5,882,739	5,802,909	5,592,281	5,684,959	5,688,104	5,891,487
3	Total General Service Volumes	15,864,851	15,643,202	15,315,535	15,611,984	15,620,686	15,688,208
4	Year-over-Year Change in Volumes	197,643	(221,649)	(327,667)	296,449	8,702	67,522

9. The 2024 Test Year Forecast of normalized volumes for general service is 15,688,208 10^3m^3 as provided at Attachment 1, page 3. Normalized volumes are forecast to increase by 67,522 10^3m^3 or 0.4% from the 2023 Bridge Year Forecast

to the 2024 Test Year Forecast. This increase is attributable to an increase in the customer count of 39,177, partially offset by a decline in normalized average use compared to 2023 Bridge Year. The average increase in customer count is primarily driven by the residential market (93.1%) as provided at Attachment 6, page 15.

10. The 2023 Bridge Year Forecast of normalized volumes for general service is 15,620,686 10^3m^3 as provided at Attachment 1, page 3. Normalized volumes are forecast to increase by 8,702 10^3m^3 or 0.1% from the 2022 Estimate to the 2023 Bridge Year Forecast. This slight increase is attributable to an increase in the customer count of 39,348, offset by a decline in normalized average use compared to 2022 Estimate. The average increase in customer count is primarily driven by the residential market (95.7%) as provided at Attachment 6, page 12.

11. The 2022 Estimate of normalized volumes for general service is 15,611,984 10^3m^3 as provided at Attachment 1, page 3. Normalized volumes are calculated to increase by 296,449 10^3m^3 or 1.9% from the 2021 actual to the 2022 Estimate Year Forecast. This increase is attributable to an increase in the customer count of 39,740 and by an increase in normalized average use compared to 2021 actual normalized average use. The increase in customer count is primarily driven by the residential market (96.6%) as provided at Attachment 6, page 9. The 2022 Estimate of unnormalized volumes for general service is 15,927,002 10^3m^3 as provided at Attachment 7, page 3. In the first two months of 2022, weather was approximately 3% colder than normal which equates to a 315,018 10^3m^3 impact on volumes.

12. The 2021 actual normalized volumes for general service are 15,315,535 10^3m^3 as provided at Attachment 1, page 3. Normalized volumes decreased by 327,667 10^3m^3 or 2.1% from the 2020 actual to the 2021 actual. This decrease is

attributable to a decline in normalized average use due to the prolonged COVID-19 pandemic, partially offset by an increase in the customer count of 39,148 driven primarily by the residential market (96.2%) as provided at Attachment 6, page 6. The 2021 actual unnormalized volumes for general service is 14,439,844 10^3m^3 as provided at Attachment 7, page 3. In 2021, weather was approximately 9.4% warmer than normal which equates to an 875,691 10^3m^3 impact on volumes.

13. The 2020 actual normalized volumes for general service are 15,643,202 10^3m^3 as provided at Attachment 1, page 3. Normalized volumes decreased by 221,649 10^3m^3 or 1.4% from the 2019 actual to the 2020 actual. This decrease is attributable to a decline in normalized average use due to the impact of COVID-19, partially offset by an increase in the customer count of 41,104 primarily driven by the residential market (95.7%) as provided at Attachment 6, page 3. The 2020 actual unnormalized volumes for general service is 15,078,468 10^3m^3 as provided at Attachment 9, page 3. In 2020, weather was approximately 4.8% warmer than normal which equates to a 564,734 10^3m^3 impact on volumes.

1.2. Distribution Contract Market

14. The level of normalized volumes for the distribution contract market is primarily baseload or process-driven consumption, with relatively minor impacts from changes in weather. As such, the level of normalized volumes is generally consistent with unnormalized volumes. A summarized version of the normalized volumes for distribution contract market and year-over-year variances is provided in Table 2. Discussion regarding the drivers of unnormalized volumetric changes in the distribution contract market on a historical and forecast basis, as well as year-over-year variances, are provided at Exhibit 3, Tab 2, Schedule 8. Given that there are minimal differences between unnormalized and normalized volumes for the

distribution contract market, no further discussion on normalized distribution contract market volumes has been provided in this Exhibit.

Table 2
Throughput Volumes - Normalized - Contract Sales & T-Service

Line No.	Particulars (10^3m^3)	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
1	EGD Rate Zone	2,495,594	2,436,549	2,778,379	2,748,835	2,893,316	2,883,020
2	Union Rate Zones	7,913,443	7,971,108	8,585,841	8,441,782	9,133,458	9,351,645
3	Total Contract Volumes	10,409,038	10,407,657	11,364,220	11,190,617	12,026,774	12,234,665
4	Year-over-Year Change in Volumes	593,678	(1,381)	956,563	(173,603)	836,157	207,891

15. Details of normalized volumes for the distribution contract market for 2013 to 2021 historical years, 2022 Estimate, 2023 Bridge Year and 2024 Test Year, by rate class, have been provided at Attachment 1. The calculation of year-over-year variances has been provided at Attachment 2.

2. Normalized Gas Supply and Delivery Revenues

16. Normalized gas supply and delivery revenues are a function of normalized volumes and the commodity and delivery rates in effect for the relevant time period. As such, the discussion of changes in normalized volumes discussed earlier in this Exhibit is relevant in the context of analyzing changes to normalized gas supply and delivery revenues as well.

2.1. General Service

17. Details of normalized gas supply and delivery revenues for general service for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year and 2024 Test Year, by rate class, have been provided at Attachment 3, page 4. The calculation of year-over-year variances has been provided at Attachment 4. A summarized version of the normalized revenues for general service and year-over-year variances are provided in Table 3.

Table 3
Normalized Revenue - General Service

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)
1	EGD Rate Zone	2,698.8	2,555.6	2,789.5	2,973.5	3,418.9	3,397.1
2	Union Rate Zones	1,481.3	1,391.3	1,510.6	1,591.5	1,919.9	2,057.1
3	Total General Service Revenue	4,180.1	3,946.9	4,300.1	4,564.9	5,338.8	5,454.2
4	Year-over-Year Change in Revenue	(211.8)	(233.2)	353.2	264.9	773.9	115.4

18. The 2024 Test Year Forecast of normalized gas supply and delivery revenues for general service is $5,454.2 million as provided at Attachment 3, page 4. The $115.4 million increase in normalized gas supply and delivery revenues from the 2023 Bridge Year Forecast to the 2024 Test Year Forecast is primarily attributable to the addition of a commodity rate adjustment for Union South and Union North East rate zones as provided at Exhibit 6, Tab 1, Schedule 2, customer growth, partially offset by a decline in normalized average use.

19. The 2023 Bridge Year Forecast of normalized gas supply and delivery revenues for general service is $5,338.8 million as provided at Attachment 3, page 4. The $773.9 million increase in normalized gas supply and delivery revenues from the 2022 Estimate to the 2023 Bridge Year Forecast is attributable to higher commodity pricing forecast in 2023, increases in 2023 proposed distribution rates, customer growth, partially offset by lower average use.

20. The 2022 Estimate of normalized gas supply and delivery revenues for general service is $4,564.9 million as provided at Attachment 3, page 4. The $264.9 million increase in the normalized gas supply and delivery revenues from the 2021 actual to the 2022 Estimate Forecast is attributable to higher distribution rates in 2022, customer growth, and higher average use.

21. The 2021 actual normalized gas supply and delivery revenues for general service is $4,300.1 million as provided at Attachment 3, page 4. The $353.2 million increase in the normalized gas supply and delivery revenues from the 2020 actual to the 2021 actual is attributable to higher commodity and distribution rates in 2021, customer growth, partially offset by lower average use.

22. The 2020 actual normalized gas supply and delivery revenues for general service is $3,946.9 million as provided at Attachment 3, page 4. The $233.2 million decrease in the normalized gas supply and delivery revenues from the 2019 actual to the 2020 actual is attributable to lower commodity rates, a decrease in average use, partially offset by customer growth, and higher distribution rates in 2020.

2.2. Distribution Contract Market

23. Details of normalized gas supply and delivery revenues for the distribution contract market for 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year and

2024 Test Year, by rate class, have been provided at Attachment 3, pages 4-5. The calculation of year-over-year variances has been provided at Attachment 4. A summarized version of the normalized revenues for distribution contract market and year-over-year variances are provided in Table 4.

Table 4
Normalized Revenue - Distribution Contract Market

Line No.	Particulars ($ millions)	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
1	EGD Rate Zone	106.1	99.6	120.0	123.6	140.7	140.6
2	Union Rate Zone	209.2	212.9	236.8	234.9	250.9	256.8
3	Total Contract Revenue	315.3	312.5	356.8	358.5	391.5	397.4
4	Year-over-Year Change in Revenue	(13.1)	(2.8)	44.2	1.8	33.0	5.9

24. The 2024 Test Year Forecast of normalized gas supply and delivery revenues for the distribution contract market is $397.4 million as provided at Attachment 3, pages 4-5. The $5.9 million increase in normalized gas supply and delivery revenues from the 2023 Bridge Year Forecast to the 2024 Test Year Forecast is primarily attributable to greenhouse expansions in Rate M4 and M7, the addition of a commodity rate adjustment for Union South and Union North East rate zones as provided at Exhibit 6, Tab 1, Schedule 2, and growth from new & existing customers largely in Rate 20,100, 200 and T2.

25. The 2023 Bridge Year Forecast of normalized gas supply and delivery revenues for the distribution contract market is $391.5 million as provided at Attachment 3, pages 4-5. The $33.0 million increase in normalized gas supply and delivery

revenues from the 2022 Estimate to the 2023 Bridge Year Forecast is attributable to higher commodity pricing forecasted in 2023, increases in 2023 proposed distribution rates, and increases from new contract market customer growth and expansions by existing customers such as greenhouse growth.

26. The 2022 Estimate of normalized gas supply and delivery revenues for the distribution contract market is $358.5 million as provided at Attachment 3, pages 4-5. The $1.8 million increase in the normalized gas supply and delivery revenues from the 2021 actual to the 2022 Estimate is attributable to growth from new contract market customers and contract parameter changes in existing customers, 2022 distribution rates increase, partially offset by lower forecast utilization of Rate 25 sales service.

27. The 2021 actual normalized gas supply and delivery revenues for the distribution contract market is $356.8 million as provided at Attachment 1, pages 4-5. The $44.2 million increase in the normalized gas supply and delivery revenues from the 2020 actual to the 2021 actual is attributable to an increase in commodity rates in 2021, high utilization of Rate 25 sales service, customer growth and distribution rate increases.

28. The 2020 actual normalized gas supply and delivery revenues for the distribution contract market is $312.5 million as provided at Attachment 1, pages 4-5. The $2.8 million decrease in the normalized gas supply and delivery revenues from the 2019 actual to the 2020 actual is attributable to lower commodity rates in 2020, partially offset by customer growth and distribution rate increases.

Throughput Volumes - Normalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2013 OEB-Approved (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)
	General Service								
1	Rate 1	EGD	4,637,500	4,758,400	4,702,500	4,685,700	4,704,400	4,941,800	4,952,100
2	Rate 6	EGD	4,645,700	4,709,400	4,671,100	4,706,300	4,669,500	4,911,100	4,931,900
3	Rate 9	EGD	2,000	700	600	300	200	0	0
4	Total - EGD Rate Zone		9,285,200	9,468,500	9,374,200	9,392,300	9,374,100	9,852,900	9,884,000
5	Rate M1	Union	2,939,543	2,923,223	2,944,404	2,888,866	2,913,994	2,887,923	3,151,550
6	Rate M2	Union	975,571	1,139,905	1,171,944	1,189,225	1,226,799	1,211,373	1,277,628
7	Rate 01	Union	884,421	931,231	956,141	938,944	947,942	933,321	999,518
8	Rate 10	Union	322,887	347,521	354,167	343,625	353,730	348,435	354,511
9	Total - Union Rate Zone		5,122,423	5,341,881	5,426,657	5,360,660	5,442,465	5,381,052	5,783,208
10	Total General Service		14,407,623	14,810,381	14,800,857	14,752,960	14,816,565	15,233,952	15,667,208
	Contract								
11	Rate 100	EGD	0	3,200	4,400	3,700	3,200	1,200	2,100
12	Rate 110	EGD	487,600	522,200	526,200	665,800	828,500	799,700	844,900
13	Rate 115	EGD	539,400	568,400	538,800	512,200	497,700	508,700	499,300
14	Rate 125	EGD	0	0	4,600	0	0	0	0
15	Rate 135	EGD	55,200	55,400	58,100	68,600	64,600	66,000	62,600
16	Rate 145	EGD	152,800	166,100	137,700	79,000	46,300	46,600	43,800
17	Rate 170	EGD	516,400	496,900	442,500	389,300	305,100	315,100	332,500
18	Rate 200	EGD	163,100	175,800	171,800	168,100	168,600	173,500	186,100
19	Rate 300	EGD	31,000	34,700	38,400	26,800	21,100	0	0
20	Rate 315	EGD	0	0	0	0	0	0	0
21	Total - EGD Rate Zone		1,945,500	2,022,700	1,922,500	1,913,500	1,935,100	1,910,800	1,971,300

Throughput Volumes - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars (10^3m^3)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
22	Rate M4	Union	404,678	474,815	484,404	457,328	471,413	549,760	656,761
23	Rate M7	Union	147,143	172,283	392,256	427,707	474,216	507,692	513,836
24	Rate M9	Union	60,750	63,240	67,138	66,583	72,124	69,174	78,946
25	Rate M10	Union	189	284	312	300	248	274	410
26	Rate 20	Union	629,802	650,968	535,626	540,839	564,912	501,499	478,104
27	Rate 100	Union	1,895,488	1,926,579	1,710,928	1,398,114	1,365,738	1,029,145	1,038,045
28	Rate T1	Union	548,986	452,838	470,811	442,947	447,127	458,243	466,596
29	Rate T2	Union	4,880,297	4,241,475	4,305,103	4,368,501	4,212,740	3,762,498	4,101,435
30	Rate T3	Union	272,712	273,597	288,979	263,235	250,167	257,343	279,794
31	Rate M5	Union	535,132	524,481	259,358	208,631	194,162	140,648	74,007
32	Rate 25	Union	159,555	215,467	186,550	144,313	116,847	106,997	156,126
33	Rate 30	Union	0	0	0	0	0	0	0
34	Total - Union Rate Zone		9,534,732	8,996,029	8,701,465	8,318,496	8,169,694	7,383,273	7,844,060
35	Total Contract		11,480,232	11,018,729	10,623,965	10,231,996	10,104,794	9,294,073	9,815,360
36	Total Volume		25,887,855	25,829,110	25,424,822	24,984,956	24,921,359	24,528,025	25,482,568

Throughput Volumes - Normalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service							
1	Rate 1	EGI	5,024,232	5,032,623	5,017,470	5,163,471	5,045,468	5,001,027
2	Rate 6	EGI	4,957,880	4,807,543	4,705,781	4,763,553	4,887,113	4,795,694
3	Rate 9	EGI	0	127	3	0	0	0
4	Total - EGD Rate Zone		9,982,112	9,840,293	9,723,254	9,927,024	9,932,581	9,796,721
5	Rate M1	EGI	3,192,768	3,164,347	3,080,909	3,085,316	3,063,170	3,255,132
6	Rate M2	EGI	1,307,965	1,256,830	1,182,303	1,272,165	1,253,164	1,319,376
7	Rate 01	EGI	1,018,261	1,027,582	998,109	993,258	1,012,937	989,005
8	Rate 10	EGI	363,745	354,150	330,960	334,220	358,834	327,974
9	Total - Union Rate Zone		5,882,739	5,802,909	5,592,281	5,684,959	5,688,104	5,891,487
10	Total General Service		15,864,851	15,643,202	15,315,535	15,611,984	15,620,686	15,688,208
	Contract							
11	Rate 100	EGI	15,377	20,111	33,994	26,965	28,090	27,429
12	Rate 110	EGI	874,101	982,511	1,103,922	1,111,051	1,074,372	1,068,281
13	Rate 115	EGI	441,477	378,156	387,744	367,381	386,039	381,873
14	Rate 125	EGI	591,623	523,436	707,660	690,079	824,971	824,971
15	Rate 135	EGI	63,020	65,287	63,112	55,771	55,486	52,646
16	Rate 145	EGI	30,486	23,565	24,941	19,073	15,331	15,714
17	Rate 170	EGI	291,292	248,031	256,744	277,330	322,426	323,254
18	Rate 200	EGI	187,869	195,190	199,994	201,047	186,602	188,852
19	Rate 300	EGI	349	262	269	139	0	0
20	Rate 315	EGI	0	0	0	0	0	0
21	Total - EGD Rate Zone		2,495,594	2,436,549	2,778,379	2,748,835	2,893,316	2,883,020

Throughput Volumes - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars (10^3m^3)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
22	Rate M4	EGI	674,011	621,380	610,808	596,466	598,163	593,899
23	Rate M7	EGI	541,343	618,372	686,353	718,754	749,542	789,737
24	Rate M9	EGI	103,989	88,765	90,096	89,547	90,073	90,073
25	Rate M10	EGI	391	360	320	341	329	0
26	Rate 20	EGI	522,900	778,476	637,600	811,568	839,751	929,101
27	Rate 100	EGI	1,020,510	996,605	958,587	1,006,653	1,036,696	1,076,378
28	Rate T1	EGI	437,372	430,312	453,007	423,268	434,564	431,289
29	Rate T2	EGI	4,136,389	4,017,975	4,700,474	4,359,326	4,962,964	5,005,643
30	Rate T3	EGI	283,374	264,209	241,187	277,095	249,200	249,200
31	Rate M5	EGI	73,965	61,817	63,511	61,664	60,802	59,493
32	Rate 25	EGI	119,200	92,838	143,898	97,099	111,374	126,831
33	Rate 30	EGI	0	0	0	0	0	0
34	Total - Union Rate Zone		7,913,443	7,971,108	8,585,841	8,441,782	9,133,458	9,351,645
35	Total Contract		10,409,038	10,407,657	11,364,220	11,190,617	12,026,774	12,234,665
36	Total Volume		26,273,889	26,050,859	26,679,755	26,802,601	27,647,460	27,922,873

Throughput Volumes - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No	Particulars (10^3m^3)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service - Sector							
37	Residential	EGI	8,167,790	8,250,753	8,156,568	8,262,965	8,136,829	8,179,258
38	Commercial	EGI	6,543,123	6,353,684	6,154,221	6,312,259	6,472,519	6,448,091
39	Industrial	EGI	1,153,938	1,038,766	1,004,746	1,036,760	1,011,337	1,060,859
40	Total		15,864,851	15,643,202	15,315,535	15,611,984	15,620,686	15,688,208
	Contract - Sector							
41	Automotive	EGI	175,212	186,847	180,015	189,115	200,474	214,930
42	Buildings	EGI	496,524	542,604	591,952	640,572	643,146	642,128
43	Chemical	EGI	1,548,147	1,608,719	1,689,982	1,695,446	2,015,061	2,013,902
44	Food & Beverage	EGI	709,584	763,648	781,076	766,720	776,224	774,166
45	Greenhouse - Agricultural	EGI	553,665	633,192	690,449	725,449	756,500	816,729
46	Manufacturing	EGI	692,381	706,894	759,562	720,196	752,042	749,817
47	Mining	EGI	327,537	334,516	313,346	339,823	343,877	406,498
48	Other	EGI	618,683	630,965	628,211	578,305	470,953	421,610
49	Power	EGI	2,052,906	1,564,683	1,975,997	1,928,645	2,298,498	2,427,690
50	Pulp & Paper	EGI	495,644	552,877	560,647	609,426	623,810	623,250
51	Refining	EGI	1,301,561	1,467,430	1,457,677	1,435,427	1,450,521	1,454,573
52	Steel	EGI	1,437,193	1,415,282	1,735,308	1,561,491	1,695,668	1,689,373
53	Total		10,409,038	10,407,657	11,364,220	11,190,617	12,026,774	12,234,665
54	Total Volume		26,273,889	26,050,859	26,679,755	26,802,601	27,647,460	27,922,873

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2019 Actual & 2020 Actual

Line No.	Particulars (10^3m^3)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,891,003	133,229	5,024,232	4,925,067	107,556	5,032,623	8,391
2	Rate 6	3,053,332	1,904,548	4,957,880	2,919,935	1,887,608	4,807,543	(150,337)
3	Rate 9	0	0	0	127	0	127	127
4	Total - EGD Rate Zone	7,944,335	2,037,777	9,982,112	7,845,129	1,995,164	9,840,293	(141,819)
5	Rate M1	2,978,227	214,541	3,192,768	2,966,369	197,978	3,164,347	(28,421)
6	Rate M2	643,702	664,263	1,307,965	595,912	660,918	1,256,830	(51,135)
7	Rate 01	942,069	76,192	1,018,261	954,899	72,683	1,027,582	9,321
8	Rate 10	179,384	184,361	363,745	160,473	193,677	354,150	(9,595)
9	Total - Union Rate Zone	4,743,382	1,139,357	5,882,739	4,677,653	1,125,256	5,802,909	(79,830)
10	Total General Service	12,687,717	3,177,134	15,864,851	12,522,782.00	3,120,420	15,643,202	(221,649)
	Contract							
11	Rate 100	12,577	2,800	15,377	9,142	10,969	20,111	4,734
12	Rate 110	68,704	805,396	874,101	71,936	910,575	982,511	108,410
13	Rate 115	739	440,738	441,477	730	377,426	378,156	(63,321)
14	Rate 125	0	591,623	591,623	0	523,436	523,436	(68,187)
15	Rate 135	1,631	61,389	63,020	1,785	63,502	65,287	2,267
16	Rate 145	1,565	28,921	30,486	628	22,937	23,565	(6,921)

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars (10^3m^3)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	18,299	272,993	291,292	4,847	243,184	248,031	(43,261)
18	Rate 200	143,859	44,010	187,869	142,758	52,433	195,190	7,321
19	Rate 300	0	349	349	0	262	262	(87)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	247,375	2,248,219	2,495,594	231,825	2,204,724	2,436,549	(59,045)
22	Rate M4	53,246	620,765	674,011	56,325	565,055	621,380	(52,632)
23	Rate M7	25,510	515,833	541,343	28,488	589,884	618,372	77,029
24	Rate M9	28,114	75,875	103,989	16,236	72,529	88,765	(15,224)
25	Rate M10	391	0	391	360	0	360	(31)
26	Rate 20	10,603	512,297	522,900	9,423	769,053	778,476	255,576
27	Rate 100	0	1,020,510	1,020,510	0	996,605	996,605	(23,905)
28	Rate T1	0	437,372	437,372	0	430,312	430,312	(7,060)
29	Rate T2	0	4,136,389	4,136,389	0	4,017,975	4,017,975	(118,414)
30	Rate T3	0	283,374	283,374	0	264,209	264,209	(19,165)
31	Rate M5	5,923	68,042	73,965	2,712	59,105	61,817	(12,148)
32	Rate 25	42,433	76,767	119,200	29,990	62,848	92,838	(26,362)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	166,220	7,747,223	7,913,443	143,534	7,827,574	7,971,108	57,665
35	Total Contract	413,595	9,995,443	10,409,038	375,359	10,032,298	10,407,657	(1,381)
36	Total Volume	13,101,312	13,172,577	26,273,889	12,898,142	13,152,718	26,050,859	(223,030)

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars (10^3m^3)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	8,040,910	126,880	8,167,790	8,132,392	118,361	8,250,753	82,963
38	Commercial	4,061,898	2,481,225	6,543,123	3,888,816	2,464,868	6,353,684	(189,439)
39	Industrial	584,909	569,030	1,153,938	501,574	537,192	1,038,766	(115,173)
40	Total	12,687,717	3,177,134	15,864,851	12,522,782	3,120,420	15,643,202	(221,649)
	Contract - Sector							
41	Automotive	0	175,212	175,212	0	186,847	186,847	11,636
42	Buildings	35,316	461,208	496,524	22,217	520,387	542,604	46,080
43	Chemical	8,844	1,539,303	1,548,147	7,248	1,601,471	1,608,719	60,572
44	Food & Beverage	49,917	659,667	709,584	57,729	705,919	763,648	54,064
45	Greenhouse - Agricultural	35,277	518,389	553,665	29,974	603,218	633,192	79,527
46	Manufacturing	48,426	643,955	692,381	47,193	659,701	706,894	14,512
47	Mining	4,874	322,663	327,537	5,053	329,463	334,516	6,979
48	Other	193,958	424,725	618,683	170,780	460,185	630,965	12,282
49	Power	8,219	2,044,686	2,052,906	11,310	1,553,373	1,564,683	(488,223)
50	Pulp & Paper	9,482	486,162	495,644	8,461	544,416	552,877	57,232
51	Refining	0	1,301,561	1,301,561	1,859	1,465,571	1,467,430	165,869
52	Steel	19,282	1,417,911	1,437,193	13,536	1,401,746	1,415,282	(21,912)
53	Total	413,595	9,995,443	10,409,038	375,359	10,032,298	10,407,657	(1,381)
54	Total Volume	13,101,312	13,172,577	26,273,889	12,898,142	13,152,718	26,050,859	(223,030)

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2020 Actual & 2021 Actual

Line No.	Particulars (10^3m^3)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,925,067	107,556	5,032,623	4,930,993	86,477	5,017,470	(15,153)
2	Rate 6	2,919,935	1,887,608	4,807,543	2,899,533	1,806,248	4,705,781	(101,762)
3	Rate 9	127	0	127	3	0	3	(124)
4	Total - EGD Rate Zone	7,845,129	1,995,164	9,840,293	7,830,529	1,892,725	9,723,254	(117,039)
5	Rate M1	2,966,369	197,978	3,164,347	2,901,101	179,808	3,080,909	(83,438)
6	Rate M2	595,912	660,918	1,256,830	559,108	623,195	1,182,303	(74,527)
7	Rate 01	954,899	72,683	1,027,582	935,043	63,066	998,109	(29,473)
8	Rate 10	160,473	193,677	354,150	157,870	173,090	330,960	(23,190)
9	Total - Union Rate Zone	4,677,653	1,125,256	5,802,909	4,553,122	1,039,159	5,592,281	(210,628)
10	Total General Service	12,522,782	3,120,420	15,643,202	12,383,651	2,931,884	15,315,535	(327,667)
	Contract							
11	Rate 100	9,142	10,969	20,111	12,899	21,095	33,994	13,883
12	Rate 110	71,936	910,575	982,511	83,587	1,020,335	1,103,922	121,411
13	Rate 115	730	377,426	378,156	1,011	386,733	387,744	9,588
14	Rate 125	0	523,436	523,436	0	707,660	707,660	184,224
15	Rate 135	1,785	63,502	65,287	2,624	60,488	63,112	(2,175)
16	Rate 145	628	22,937	23,565	29	24,912	24,941	1,376

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars (10^3m^3)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	4,847	243,184	248,031	6,302	250,441	256,744	8,713
18	Rate 200	142,758	52,433	195,190	145,763	54,230	199,994	4,804
19	Rate 300	0	262	262	0	269	269	7
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	231,825	2,204,724	2,436,549	252,216	2,526,164	2,778,379	341,830
22	Rate M4	56,325	565,055	621,380	56,304	554,504	610,808	(10,572)
23	Rate M7	28,488	589,884	618,372	31,987	654,366	686,353	67,981
24	Rate M9	16,236	72,529	88,765	15,903	74,193	90,096	1,331
25	Rate M10	360	0	360	320	0	320	(40)
26	Rate 20	9,423	769,053	778,476	8,464	629,136	637,600	(140,876)
27	Rate 100	0	996,605	996,605	0	958,587	958,587	(38,018)
28	Rate T1	0	430,312	430,312	0	453,007	453,007	22,695
29	Rate T2	0	4,017,975	4,017,975	0	4,700,474	4,700,474	682,500
30	Rate T3	0	264,209	264,209	0	241,187	241,187	(23,022)
31	Rate M5	2,712	59,105	61,817	4,043	59,468	63,511	1,694
32	Rate 25	29,990	62,848	92,838	79,188	64,709	143,898	51,060
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	143,534	7,827,574	7,971,108	196,209	8,389,631	8,585,841	614,733
35	Total Contract	375,359	10,032,298	10,407,657	448,425	10,915,795	11,364,220	956,563
36	Total Volume	12,898,142	13,152,718	26,050,859	12,832,076	13,847,679	26,679,755	628,896

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars (10^3m^3)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	8,132,392	118,361	8,250,753	7,988,339	168,229	8,156,568	(94,184)
38	Commercial	3,888,816	2,464,868	6,353,684	3,888,706	2,265,515	6,154,221	(199,463)
39	Industrial	501,574	537,192	1,038,766	506,605	498,140	1,004,746	(34,020)
40	Total	12,522,782	3,120,420	15,643,202	12,383,651	2,931,884	15,315,535	(327,667)
	Contract - Sector							
41	Automotive	0	186,847	186,847	0	180,015	180,015	(6,832)
42	Buildings	22,217	520,387	542,604	23,931	568,021	591,952	49,349
43	Chemical	7,248	1,601,471	1,608,719	8,211	1,681,770	1,689,982	81,262
44	Food & Beverage	57,729	705,919	763,648	63,829	717,247	781,076	17,428
45	Greenhouse - Agricultural	29,974	603,218	633,192	29,650	660,799	690,449	57,257
46	Manufacturing	47,193	659,701	706,894	48,899	710,663	759,562	52,668
47	Mining	5,053	329,463	334,516	5,724	307,622	313,346	(21,171)
48	Other	170,780	460,185	630,965	176,731	451,480	628,211	(2,754)
49	Power	11,310	1,553,373	1,564,683	20,189	1,955,808	1,975,997	411,313
50	Pulp & Paper	8,461	544,416	552,877	18,788	541,859	560,647	7,770
51	Refining	1,859	1,465,571	1,467,430	779	1,456,898	1,457,677	(9,753)
52	Steel	13,536	1,401,746	1,415,282	51,695	1,683,613	1,735,308	320,026
53	Total	375,359	10,032,298	10,407,657	448,425	10,915,795	11,364,220	956,563
54	Total Volume	12,898,142	13,152,718	26,050,859	12,832,076	13,847,679	26,679,755	628,896

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2021 Actual & 2022 Estimate

Line No.	Particulars (10^3m^3)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,930,993	86,477	5,017,470	5,021,543	141,929	5,163,471	146,001
2	Rate 6	2,899,533	1,806,248	4,705,781	2,972,898	1,790,656	4,763,553	57,772
3	Rate 9	3	0	3	0	0	0	(3)
4	Total - EGD Rate Zone	7,830,529	1,892,725	9,723,254	7,994,440	1,932,584	9,927,024	203,770
5	Rate M1	2,901,101	179,808	3,080,909	2,901,640	183,677	3,085,316	4,407
6	Rate M2	559,108	623,195	1,182,303	612,231	659,935	1,272,165	89,862
7	Rate 01	935,043	63,066	998,109	925,704	67,553	993,258	(4,851)
8	Rate 10	157,870	173,090	330,960	157,397	176,823	334,220	3,260
9	Total - Union Rate Zone	4,553,122	1,039,159	5,592,281	4,596,971	1,087,988	5,684,959	92,678
10	Total General Service	12,383,651	2,931,884	15,315,535	12,591,411	3,020,572	15,611,984	296,449
	Contract							
11	Rate 100	12,899	21,095	33,994	13,072	13,893	26,965	(7,029)
12	Rate 110	83,587	1,020,335	1,103,922	76,260	1,034,792	1,111,051	7,130
13	Rate 115	1,011	386,733	387,744	998	366,384	367,381	(20,363)
14	Rate 125	0	707,660	707,660	0	690,079	690,079	(17,581)
15	Rate 135	2,624	60,488	63,112	2,691	53,080	55,771	(7,342)
16	Rate 145	29	24,912	24,941	420	18,653	19,073	(5,868)

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars (10^3m^3)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	6,302	250,441	256,744	6,210	271,119	277,330	20,586
18	Rate 200	145,763	54,230	199,994	157,776	43,271	201,047	1,054
19	Rate 300	0	269	269	0	139	139	(130)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	252,216	2,526,164	2,778,379	257,426	2,491,409	2,748,835	(29,544)
22	Rate M4	56,304	554,504	610,808	61,477	534,989	596,466	(14,342)
23	Rate M7	31,987	654,366	686,353	37,266	681,488	718,754	32,401
24	Rate M9	15,903	74,193	90,096	17,523	72,024	89,547	(549)
25	Rate M10	320	0	320	341	0	341	22
26	Rate 20	8,464	629,136	637,600	8,642	802,927	811,568	173,969
27	Rate 100	0	958,587	958,587	0	1,006,653	1,006,653	48,065
28	Rate T1	0	453,007	453,007	0	423,268	423,268	(29,739)
29	Rate T2	0	4,700,474	4,700,474	0	4,359,326	4,359,326	(341,148)
30	Rate T3	0	241,187	241,187	0	277,095	277,095	35,908
31	Rate M5	4,043	59,468	63,511	4,853	56,812	61,664	(1,847)
32	Rate 25	79,188	64,709	143,898	13,853	83,246	97,099	(46,799)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	196,209	8,389,631	8,585,841	143,954	8,297,828	8,441,782	(144,059)
35	Total Contract	448,425	10,915,795	11,364,220	401,381	10,789,237	11,190,617	(173,603)
36	Total Volume	12,832,076	13,847,679	26,679,755	12,992,792	13,809,809	26,802,601	122,846

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars (10^3m^3)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	7,988,339	168,229	8,156,568	8,047,409	215,556	8,262,965	106,396
38	Commercial	3,888,706	2,265,515	6,154,221	3,945,841	2,366,418	6,312,259	158,038
39	Industrial	506,605	498,140	1,004,746	598,162	438,599	1,036,760	32,015
40	Total	12,383,651	2,931,884	15,315,535	12,591,411	3,020,572	15,611,984	296,449
	Contract - Sector							
41	Automotive	0	180,015	180,015	0	189,115	189,115	9,100
42	Buildings	23,931	568,021	591,952	25,984	614,588	640,572	48,619
43	Chemical	8,211	1,681,770	1,689,982	6,877	1,688,570	1,695,446	5,465
44	Food & Beverage	63,829	717,247	781,076	61,519	705,200	766,720	(14,357)
45	Greenhouse - Agricultural	29,650	660,799	690,449	38,210	687,240	725,449	35,000
46	Manufacturing	48,899	710,663	759,562	43,931	676,266	720,196	(39,365)
47	Mining	5,724	307,622	313,346	3,933	335,890	339,823	26,478
48	Other	176,731	451,480	628,211	192,835	385,471	578,305	(49,905)
49	Power	20,189	1,955,808	1,975,997	15,922	1,912,723	1,928,645	(47,352)
50	Pulp & Paper	18,788	541,859	560,647	1,167	608,259	609,426	48,779
51	Refining	779	1,456,898	1,457,677	2,734	1,432,694	1,435,427	(22,249)
52	Steel	51,695	1,683,613	1,735,308	8,270	1,553,222	1,561,491	(173,816)
53	Total	448,425	10,915,795	11,364,220	401,381	10,789,237	11,190,617	(173,603)
54	Total Volume	12,832,076	13,847,679	26,679,755	12,992,792	13,809,809	26,802,601	122,846

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars (10^3m^3)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	5,021,543	141,929	5,163,471	4,949,972	95,496	5,045,468	(118,003)
2	Rate 6	2,972,898	1,790,656	4,763,553	3,026,407	1,860,706	4,887,113	123,560
3	Rate 9	0	0	0	0	0	0	0
4	Total - EGD Rate Zone	7,994,440	1,932,584	9,927,024	7,976,379	1,956,202	9,932,581	5,557
5	Rate M1	2,901,640	183,677	3,085,316	2,882,812	180,358	3,063,170	(22,146)
6	Rate M2	612,231	659,935	1,272,165	624,631	628,533	1,253,164	(19,001)
7	Rate 01	925,704	67,553	993,258	952,937	60,000	1,012,937	19,679
8	Rate 10	157,397	176,823	334,220	189,976	168,858	358,834	24,614
9	Total - Union Rate Zone	4,596,971	1,087,988	5,684,959	4,650,356	1,037,749	5,688,104	3,145
10	Total General Service	12,591,411	3,020,572	15,611,984	12,626,735	2,993,951	15,620,686	8,702
	Contract							
11	Rate 100	13,072	13,893	26,965	15,118	12,972	28,090	1,126
12	Rate 110	76,260	1,034,792	1,111,051	102,758	971,614	1,074,372	(36,680)
13	Rate 115	998	366,384	367,381	1,669	384,370	386,039	18,658
14	Rate 125	0	690,079	690,079	0	824,971	824,971	134,892
15	Rate 135	2,691	53,080	55,771	4,818	50,668	55,486	(285)
16	Rate 145	420	18,653	19,073	556	14,775	15,331	(3,742)

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars (10^3m^3)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	6,210	271,119	277,330	5,361	317,065	322,426	45,096
18	Rate 200	157,776	43,271	201,047	138,497	48,105	186,602	(14,445)
19	Rate 300	0	139	139	0	0	0	(139)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	257,426	2,491,409	2,748,835	268,775	2,624,540	2,893,316	144,480
22	Rate M4	61,477	534,989	596,466	59,807	538,356	598,163	1,696
23	Rate M7	37,266	681,488	718,754	35,619	713,923	749,542	30,788
24	Rate M9	17,523	72,024	89,547	15,795	74,278	90,073	527
25	Rate M10	341	0	341	329	0	329	(12)
26	Rate 20	8,642	802,927	811,568	13,923	825,828	839,751	28,183
27	Rate 100	0	1,006,653	1,006,653	0	1,036,696	1,036,696	30,043
28	Rate T1	0	423,268	423,268	0	434,564	434,564	11,296
29	Rate T2	0	4,359,326	4,359,326	0	4,962,964	4,962,964	603,638
30	Rate T3	0	277,095	277,095	0	249,200	249,200	(27,895)
31	Rate M5	4,853	56,812	61,664	2,187	58,615	60,802	(863)
32	Rate 25	13,853	83,246	97,099	7,112	104,263	111,374	14,276
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	143,954	8,297,828	8,441,782	134,772	8,998,687	9,133,458	691,676
35	Total Contract	401,381	10,789,237	11,190,617	403,547	11,623,227	12,026,774	836,157
36	Total Volume	12,992,792	13,809,809	26,802,601	13,030,282	14,617,178	27,647,460	844,859

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars (10^3m^3)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	8,047,409	215,556	8,262,965	7,974,439	162,390	8,136,829	(126,135)
38	Commercial	3,945,841	2,366,418	6,312,259	4,112,244	2,360,275	6,472,519	160,260
39	Industrial	598,162	438,599	1,036,760	540,052	471,285	1,011,337	(25,423)
40	Total	12,591,411	3,020,572	15,611,984	12,626,735	2,993,951	15,620,686	8,702
	Contract - Sector							
41	Automotive	0	189,115	189,115	0	200,474	200,474	11,359
42	Buildings	25,984	614,588	640,572	26,660	616,485	643,146	2,574
43	Chemical	6,877	1,688,570	1,695,446	6,637	2,008,424	2,015,061	319,615
44	Food & Beverage	61,519	705,200	766,720	63,355	712,870	776,224	9,505
45	Greenhouse - Agricultural	38,210	687,240	725,449	36,405	720,095	756,500	31,050
46	Manufacturing	43,931	676,266	720,196	54,262	697,780	752,042	31,845
47	Mining	3,933	335,890	339,823	2,893	340,984	343,877	4,054
48	Other	192,835	385,471	578,305	171,096	299,857	470,953	(107,352)
49	Power	15,922	1,912,723	1,928,645	16,273	2,282,225	2,298,498	369,854
50	Pulp & Paper	1,167	608,259	609,426	18,968	604,842	623,810	14,384
51	Refining	2,734	1,432,694	1,435,427	0	1,450,521	1,450,521	15,094
52	Steel	8,270	1,553,222	1,561,491	6,997	1,688,671	1,695,668	134,176
53	Total	401,381	10,789,237	11,190,617	403,547	11,623,227	12,026,774	836,157
54	Total Volume	12,992,792	13,809,809	26,802,601	13,030,282	14,617,178	27,647,460	844,859

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars (10^3m^3)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,949,972	95,496	5,045,468	4,915,774	85,253	5,001,027	(44,441)
2	Rate 6	3,026,407	1,860,706	4,887,113	2,970,864	1,824,830	4,795,694	(91,419)
3	Rate 9	0	0	0	0	0	0	0
4	Total - EGD Rate Zone	7,976,379	1,956,202	9,932,581	7,886,638	1,910,083	9,796,721	(135,860)
5	Rate M1	2,882,812	180,358	3,063,170	3,073,284	181,848	3,255,132	191,962
6	Rate M2	624,631	628,533	1,253,164	688,379	630,997	1,319,376	66,212
7	Rate 01	952,937	60,000	1,012,937	931,213	57,792	989,005	(23,932)
8	Rate 10	189,976	168,858	358,834	164,590	163,384	327,974	(30,860)
9	Total - Union Rate Zone	4,650,356	1,037,749	5,688,104	4,857,466	1,034,021	5,891,487	203,383
10	Total General Service	12,626,735	2,993,951	15,620,686	12,744,104	2,944,104	15,688,208	67,522
	Contract							
11	Rate 100	15,118	12,972	28,090	14,757	12,673	27,429	(661)
12	Rate 110	102,758	971,614	1,074,372	102,197	966,084	1,068,281	(6,091)
13	Rate 115	1,669	384,370	386,039	1,651	380,222	381,873	(4,166)
14	Rate 125	0	824,971	824,971	0	824,971	824,971	0
15	Rate 135	4,818	50,668	55,486	4,392	48,255	52,646	(2,839)
16	Rate 145	556	14,775	15,331	574	15,140	15,714	382

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars (10^3m^3)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	5,361	317,065	322,426	5,360	317,894	323,254	828
18	Rate 200	138,497	48,105	186,602	140,306	48,547	188,852	2,250
19	Rate 300	0	0	0	0	0	0	0
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	268,775	2,624,540	2,893,316	269,237	2,613,784	2,883,020	(10,296)
22	Rate M4	59,807	538,356	598,163	59,362	534,538	593,899	(4,263)
23	Rate M7	35,619	713,923	749,542	35,619	754,118	789,737	40,195
24	Rate M9	15,795	74,278	90,073	15,795	74,278	90,073	0
25	Rate M10	329	0	329	0	0	0	(329)
26	Rate 20	13,923	825,828	839,751	15,631	913,470	929,101	89,350
27	Rate 100	0	1,036,696	1,036,696	0	1,076,378	1,076,378	39,682
28	Rate T1	0	434,564	434,564	0	431,289	431,289	(3,275)
29	Rate T2	0	4,962,964	4,962,964	0	5,005,643	5,005,643	42,679
30	Rate T3	0	249,200	249,200	0	249,200	249,200	0
31	Rate M5	2,187	58,615	60,802	2,164	57,329	59,493	(1,309)
32	Rate 25	7,112	104,263	111,374	5,703	121,128	126,831	15,456
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	134,772	8,998,687	9,133,458	134,274	9,217,372	9,351,645	218,187
35	Total Contract	403,547	11,623,227	12,026,774	403,511	11,831,156	12,234,665	207,891
36	Total Volume	13,030,282	14,617,178	27,647,460	13,147,615	14,775,260	27,922,873	275,413

Comparison of Normalized Throughput Volume - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars (10^3m^3)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	7,974,439	162,390	8,136,829	8,027,334	151,925	8,179,258	42,429
38	Commercial	4,112,244	2,360,275	6,472,519	4,139,018	2,309,073	6,448,091	(24,428)
39	Industrial	540,052	471,285	1,011,337	577,752	483,107	1,060,859	49,521
40	Total	12,626,735	2,993,951	15,620,686	12,744,104	2,944,104	15,688,208	67,522
	Contract - Sector							
41	Automotive	0	200,474	200,474	0	214,930	214,930	14,455
42	Buildings	26,660	616,485	643,146	26,624	615,504	642,128	(1,017)
43	Chemical	6,637	2,008,424	2,015,061	6,579	2,007,323	2,013,902	(1,160)
44	Food & Beverage	63,355	712,870	776,224	63,218	710,948	774,166	(2,059)
45	Greenhouse - Agricultural	36,405	720,095	756,500	36,304	780,425	816,729	60,229
46	Manufacturing	54,262	697,780	752,042	54,091	695,726	749,817	(2,225)
47	Mining	2,893	340,984	343,877	4,606	401,892	406,498	62,621
48	Other	171,096	299,857	470,953	171,133	250,477	421,610	(49,343)
49	Power	16,273	2,282,225	2,298,498	16,273	2,411,416	2,427,690	129,191
50	Pulp & Paper	18,968	604,842	623,810	18,956	604,294	623,250	(559)
51	Refining	0	1,450,521	1,450,521	0	1,454,573	1,454,573	4,052
52	Steel	6,997	1,688,671	1,695,668	5,724	1,683,649	1,689,373	(6,294)
53	Total	403,547	11,623,227	12,026,774	403,509	11,831,156	12,234,665	207,891
54	Total Volume	13,030,282	14,617,178	27,647,460	13,147,613	14,775,260	27,922,873	275,413

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)
	General Service								
1	Rate 1	EGD	1,410.5	1,546.1	1,570.2	1,678.3	1,588.0	1,862.1	1,850.1
2	Rate 6	EGD	822.5	870.8	934.6	989.5	912.1	1,127.3	1,096.2
3	Rate 9	EGD	0.5	0.2	0.2	0.1	0.1	0.0	0.0
4	Total - EGD Rate Zone		2,233.5	2,417.1	2,505.0	2,667.9	2,500.2	2,989.4	2,946.3
5	Rate M1	Union	777.6	830.1	919.9	836.3	788.0	861.0	834.4
6	Rate M2	Union	116.5	160.3	174.8	151.9	146.5	165.7	156.5
7	Rate 01	Union	337.2	368.6	384.7	374.6	358.5	392.2	384.5
8	Rate 10	Union	70.1	76.4	76.5	72.4	70.0	75.2	70.2
9	Total - Union Rate Zone		1,301.4	1,435.4	1,554.9	1,435.1	1,363.0	1,494.1	1,445.6
10	Total General Service		3,534.9	3,852.5	4,059.9	4,103.0	3,863.2	4,483.5	4,391.9
	Contract								
11	Rate 100	EGD	0.0	0.6	0.9	0.9	0.5	0.6	0.6
12	Rate 110	EGD	24.9	32.6	33.4	38.1	44.6	59.9	51.9
13	Rate 115	EGD	7.4	7.7	7.3	9.6	7.9	14.5	12.7
14	Rate 125	EGD	10.9	11.2	11.0	9.9	11.0	11.1	11.1
15	Rate 135	EGD	1.7	2.5	3.1	4.0	3.5	6.0	3.2
16	Rate 145	EGD	7.5	8.8	8.3	5.3	3.4	4.6	4.0
17	Rate 170	EGD	7.5	14.6	16.2	16.4	12.8	14.6	11.3
18	Rate 200	EGD	23.7	28.2	29.6	32.0	28.2	29.8	30.5
19	Rate 300	EGD	0.2	0.2	0.1	0.1	0.1	0.1	0.1
20	Rate 315	EGD	0.0	0.4	0.4	0.5	0.4	0.2	0.0
21	Total - EGD Rate Zone		83.8	106.8	110.3	116.8	112.4	141.4	125.4

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
22	Rate M4	Union	15.2	19.5	21.7	20.0	22.7	28.5	35.6
23	Rate M7	Union	4.1	6.3	16.0	15.8	14.0	15.6	17.0
24	Rate M9	Union	0.7	0.7	0.8	0.8	1.8	4.8	5.0
25	Rate M10	Union	0.0	0.1	0.1	0.1	0.1	0.1	0.1
26	Rate 20	Union	25.3	22.3	21.4	25.2	25.2	22.4	27.5
27	Rate 100	Union	15.6	15.8	15.8	12.5	12.9	10.9	10.4
28	Rate T1	Union	10.6	10.0	10.2	10.1	10.6	11.3	12.8
29	Rate T2	Union	42.2	46.6	49.3	51.1	57.5	59.5	69.0
30	Rate T3	Union	4.4	4.5	4.7	4.8	5.1	6.7	6.9
31	Rate M5	Union	15.7	17.4	10.0	7.5	7.8	6.4	3.6
32	Rate 25	Union	13.4	24.0	24.4	21.2	11.0	9.9	15.1
33	Rate 30	Union	0.0	0.1	0.1	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone		147.4	167.2	174.5	169.0	168.7	176.1	203.0
35	Total Contract		231.2	274.0	284.8	285.8	281.1	317.5	328.4
36	Subtotal		3,766.1	4,126.5	4,344.7	4,388.8	4,144.2	4,801.0	4,720.3

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Accounting Adjustments								
37	US GAAP adjustment elimination for deferral & variance clearance recognition	EGD	0.0	(107.3)	(197.5)	(444.2)	(139.5)	(5.7)	(43.7)
38	Removal of Cap and Trade Revenues	EGD	0.0	0.0	0.0	0.0	0.0	(255.4)	(166.1)
39	Eliminate earnings sharing in the financial statements	EGD	0.0	0.0	0.0	0.0	0.0	0.0	27.2
40	Elimination of 2013 OHCVA write-off as per the EB 2014-0195 Decision	EGD	0.0	0.0	0.4	0.0	0.0	0.0	0.0
41	Calendarized	EGD	0.0	33.4	441.3	549.7	109.2	(2.7)	16.2
42	Average Use/ Normalized Average Consumption	Union	0.0	(11.5)	(2.6)	10.2	23.3	(2.9)	(20.3)
43	Parkway Obligation Rate Variance	Union	0.0	0.0	3.6	(0.0)	2.9	(0.2)	0.0
44	Capital Pass-through	Union	0.0	0.0	0.0	0.6	2.5	0.2	(0.4)
45	LRAM	Union	0.0	2.8	0.8	(0.9)	0.5	0.6	0.4
46	Cap and Trade Revenue	Union	0.0	0.0	0.0	0.0	0.0	227.3	144.2
47	Federal Carbon Program	Union	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	Parkway West Capital Pass Through	Union	0.0	0.0	(1.1)	0.0	0.0	0.0	0.0
49	Community Expansion	Union	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50	Bill C-97 (Accelerated CCA) Ratepayer Revenue Adjustment (1)	Union	0.0	0.0	0.0	0.0	0.0	0.0	(1.3)
51	Bill C-97 (Accelerated CCA) 50% Shareholder Revenue Adjustment	Union	0.0	0.0	0.0	0.0	0.0	0.0	(0.9)
52	Tax Variance (HST) 50% Shareholder Revenue Adjustment	Union	0.0	0.0	0.0	0.0	0.0	0.0	(0.4)
53	Total		0.0	(82.5)	244.9	115.4	(1.1)	(38.8)	(45.0)
54	Total Utility Revenue		3,766.1	4,043.9	4,589.6	4,504.2	4,143.2	4,762.2	4,675.3

Note:

(1) Includes revenue reduction related to 50% ratepayer portion of Bill C-97 in the Tax Variance Account and 100% of Bill C-97 CPT impact.

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service							
1	Rate 1	EGI	1,743.2	1,679.0	1,829.5	1,941.6	2,212.3	2,206.4
2	Rate 6	EGI	955.6	876.6	959.9	1,031.9	1,206.6	1,190.7
3	Rate 9	EGI	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone		2,698.8	2,555.6	2,789.5	2,973.5	3,418.9	3,397.1
5	Rate M1	EGI	865.0	821.7	900.1	944.6	1,130.0	1,242.2
6	Rate M2	EGI	161.7	141.0	151.4	172.5	218.6	248.3
7	Rate 01	EGI	385.5	367.6	395.0	406.2	481.5	484.2
8	Rate 10	EGI	69.1	61.0	64.1	68.2	89.8	82.4
9	Total - Union Rate Zone		1,481.3	1,391.3	1,510.6	1,591.5	1,919.9	2,057.1
10	Total General Service		4,180.1	3,946.9	4,300.1	4,564.9	5,338.8	5,454.2
	Contract							
11	Rate 100	EGI	3.1	3.0	4.7	4.2	5.7	5.6
12	Rate 110	EGI	42.1	46.0	57.1	55.8	68.3	68.1
13	Rate 115	EGI	9.1	7.8	8.4	8.9	9.6	9.5
14	Rate 125	EGI	11.3	11.4	11.9	12.0	12.5	12.5
15	Rate 135	EGI	2.2	2.0	2.2	2.0	2.5	2.3
16	Rate 145	EGI	1.8	1.6	1.9	1.9	1.8	1.8
17	Rate 170	EGI	7.7	1.4	2.3	2.8	2.3	2.3
18	Rate 200	EGI	28.7	26.4	31.5	36.1	38.1	38.6
19	Rate 300	EGI	0.1	0.1	0.1	0.0	0.0	0.0
20	Rate 315	EGI	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone		106.1	99.6	120.0	123.6	140.7	140.6

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
22	Rate M4	EGI	37.8	38.0	40.8	42.6	47.8	49.6
23	Rate M7	EGI	18.6	21.8	27.9	31.4	36.1	37.8
24	Rate M9	EGI	5.4	3.5	4.0	4.5	5.2	5.4
25	Rate M10	EGI	0.1	0.1	0.1	0.1	0.1	0.0
26	Rate 20	EGI	30.9	33.1	33.5	34.5	39.6	40.7
27	Rate 100	EGI	10.7	11.3	11.5	11.8	11.4	11.8
28	Rate T1	EGI	12.7	13.5	13.9	14.0	14.4	14.4
29	Rate T2	EGI	71.6	74.0	76.0	78.7	79.3	79.8
30	Rate T3	EGI	6.9	7.1	7.2	7.5	7.8	7.8
31	Rate M5	EGI	3.5	2.6	3.1	3.3	3.2	3.3
32	Rate 25	EGI	11.0	7.8	18.8	6.6	6.0	6.2
33	Rate 30	EGI	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone		209.2	212.9	236.8	234.9	250.9	256.8
35	Total Contract		315.3	312.5	356.8	358.5	391.5	397.4
36	Subtotal		4,495.4	4,259.4	4,656.8	4,923.5	5,730.3	5,851.6

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	Accounting Adjustments							
37	Tax Variance	EGI	(24.1)	(13.4)	(18.0)	(34.1)	(27.5)	0.0
38	Elimination of Prior Year Tax Variance	EGI	4.5	0.0	0.0	0.0	0.0	0.0
39	Accounting Policy Change	EGI	1.1	(14.0)	(16.2)	(15.5)	(33.4)	0.0
40	Average Use/ Normalized Average Consumption	EGD (1)	(8.6)	(4.6)	15.4	4.1	0.0	0.0
41	Dawn Access Cost	EGD	2.2	2.1	2.0	1.2	0.0	0.0
42	Incremental Capital Module	EGD		(0.3)	0.2	(9.4)	6.9	0.0
43	Prior Year Earnings Sharing Adjustment	EGD	(1.7)	0.0	0.0	0.0	0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD	1.7	0.0	0.0	0.0	0.0	0.0
45	Transactional Services Revenue	EGD	12.0	12.0	12.0	12.0	12.0	0.0
46	LRAM	EGD	0.0	0.0	0.0	0.0	0.0	0.0
47	Federal Carbon Program	EGD	0.1	0.6	0.7	0.0	0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD	0.2	0.2	0.1	0.0	0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD	(3.9)	(3.9)	0.0	0.0	0.0	0.0
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD	0.0	3.9	0.0	0.0	0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)	(4.7)	7.2	19.0	9.4	(6.1)	0.0
52	Parkway Obligation Rate Variance	Union	0.3	0.0		0.0	0.0	0.0
53	Incremental Capital Module	Union	(7.0)	(5.6)	(14.0)	(4.4)	1.2	0.0
54	Capital Pass-through	Union	(1.0)	(1.1)	(4.4)	(3.6)	(2.9)	0.0
55	LRAM	Union	0.4	1.4	0.7	0.4	0.4	0.0
56	Federal Carbon Program	Union	0.4	1.2	1.5	0.0	0.0	0.0

Revenue - Normalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	Union	(17.4)	(17.7)	(17.2)	(16.7)	(16.4)	0.0
58	Miscellaneous	EGI	0.5	0.7	1.4	0.0	0.0	0.0
59	Total		(45.0)	(31.3)	(16.8)	(56.7)	(65.8)	0.0
60	Total Utility Revenue		4,450.4	4,228.1	4,640.1	4,866.7	5,664.5	5,851.6

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Normalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,705.4	37.8	1,743.2	1,650.3	28.7	1,679.0	(64.2)
2	Rate 6	777.2	178.4	955.6	686.1	190.5	876.6	(79.0)
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,482.6	216.2	2,698.8	2,336.4	219.2	2,555.6	(143.2)
5	Rate M1	842.3	22.7	865.0	801.4	20.3	821.7	(43.3)
6	Rate M2	123.9	37.8	161.7	104.1	36.9	141.0	(20.7)
7	Rate 01	368.6	16.9	385.5	352.7	15.0	367.6	(17.9)
8	Rate 10	46.6	22.5	69.1	38.4	22.6	61.0	(8.1)
9	Total - Union Rate Zone	1,381.4	99.9	1,481.3	1,296.5	94.8	1,391.3	(90.0)
10	Total General Service	3,864.0	316.1	4,180.1	3,632.9	314.0	3,946.9	(233.2)
	Contract							
11	Rate 100	2.7	0.4	3.1	1.8	1.2	3.0	(0.1)
12	Rate 110	5.1	37.0	42.1	9.6	36.4	46.0	3.9
13	Rate 115	0.1	9.0	9.1	0.2	7.6	7.8	(1.3)
14	Rate 125	0.0	11.3	11.3	0.0	11.4	11.4	0.1
15	Rate 135	0.3	1.9	2.2	0.4	1.6	2.0	(0.2)
16	Rate 145	0.1	1.7	1.8	0.3	1.3	1.6	(0.2)

Comparison of Normalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	2.2	5.5	7.7	0.6	0.7	1.4	(6.3)
18	Rate 200	26.6	2.1	28.7	24.0	2.4	26.4	(2.3)
19	Rate 300	0.0	0.1	0.1	0.0	0.1	0.1	(0.0)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	37.1	69.0	106.1	36.9	62.7	99.6	(6.5)
22	Rate M4	9.9	27.9	37.8	9.9	28.1	38.0	0.2
23	Rate M7	4.5	14.1	18.6	4.7	17.1	21.8	3.2
24	Rate M9	4.4	1.0	5.4	2.5	0.9	3.5	(1.9)
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	(0.0)
26	Rate 20	3.4	27.5	30.9	3.1	30.0	33.1	2.2
27	Rate 100	0.0	10.7	10.7	0.0	11.3	11.3	0.6
28	Rate T1	0.0	12.7	12.7	0.0	13.5	13.5	0.8
29	Rate T2	0.0	71.6	71.6	0.0	74.0	74.0	2.4
30	Rate T3	0.0	6.9	6.9	0.0	7.1	7.1	0.2
31	Rate M5	1.1	2.4	3.5	0.4	2.1	2.6	(0.9)
32	Rate 25	8.3	2.7	11.0	5.0	2.8	7.8	(3.2)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	31.7	177.5	209.2	25.8	187.2	212.9	3.7
35	Total Contract	68.8	246.5	315.3	62.7	249.8	312.5	(2.8)
36	Subtotal	3,932.8	562.6	4,495.4	3,695.6	563.8	4,259.4	(236.0)

Comparison of Normalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(24.1)			(13.4)	10.7
38	Elimination of Prior Year Tax Variance	EGI		4.5			0.0	(4.5)
39	Accounting Policy Change	EGI		1.1			(14.0)	(15.1)
40	Average Use/ Normalized Average Consumption	EGD (1)		(8.6)			(4.6)	4.0
41	Dawn Access Cost	EGD		2.2			2.1	(0.1)
42	Incremental Capital Module	EGD					(0.3)	(0.3)
43	Prior Year Earnings Sharing Adjustment	EGD		(1.7)			0.0	1.7
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		1.7			0.0	(1.7)
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.1			0.6	0.5
48	Greenhouse Gas Emissions Administration	EGD		0.2			0.2	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		(3.9)			(3.9)	0.0

Comparison of Normalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			3.9	3.9
51	Average Use/ Normalized Average Consumption	Union (2)		(4.7)			7.2	11.9
52	Parkway Obligation Rate Variance	Union		0.3			0.0	(0.3)
53	Incremental Capital Module	Union		(7.0)			(5.6)	1.4
54	Capital Pass-through	Union		(1.0)			(1.1)	(0.1)
55	LRAM	Union		0.4			1.4	1.0
56	Federal Carbon Program	Union		0.4			1.2	0.8
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(17.4)			(17.7)	(0.3)
58	Miscellaneous	EGI		0.5			0.7	0.2
59	Total			(45.0)			(31.3)	13.7
60	Total Utility Revenue			4,450.4			4,228.1	(222.3)

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Normalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1 (1)	1,650.3	28.7	1,679.0	1,810.6	18.9	1,829.5	150.5
2	Rate 6	686.1	190.5	876.6	807.3	152.6	959.9	83.4
3	Rate 9	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0
4	Total - EGD Rate Zone	2,336.4	219.2	2,555.6	2,617.9	171.6	2,789.5	233.8
5	Rate M1	801.4	20.3	821.7	881.4	18.7	900.1	78.4
6	Rate M2	104.1	36.9	141.0	114.6	36.8	151.4	10.4
7	Rate 01	352.7	15.0	367.6	381.5	13.4	395.0	27.3
8	Rate 10	38.4	22.6	61.0	43.0	21.1	64.1	3.1
9	Total - Union Rate Zone	1,296.5	94.8	1,391.3	1,420.5	90.1	1,510.6	119.3
10	Total General Service	3,632.9	314.0	3,946.9	4,038.4	261.6	4,300.1	353.2
	Contract							
11	Rate 100	1.8	1.2	3.0	2.9	1.8	4.7	1.7
12	Rate 110	9.6	36.4	46.0	16.7	40.4	57.1	11.1
13	Rate 115	0.2	7.6	7.8	0.2	8.2	8.4	0.6
14	Rate 125	0.0	11.4	11.4	0.0	11.9	11.9	0.4
15	Rate 135	0.4	1.6	2.0	0.6	1.6	2.2	0.2
16	Rate 145	0.3	1.3	1.6	0.0	1.9	1.9	0.3

Comparison of Normalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0.6	0.7	1.4	1.1	1.3	2.3	0.9
18	Rate 200	24.0	2.4	26.4	29.1	2.4	31.5	5.1
19	Rate 300	0.0	0.1	0.1	0.0	0.1	0.1	(0.0)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	36.9	62.7	99.6	50.5	69.5	120.0	20.3
22	Rate M4	9.9	28.1	38.0	12.0	28.8	40.8	2.8
23	Rate M7	4.7	17.1	21.8	6.7	21.2	27.9	6.0
24	Rate M9	2.5	0.9	3.5	3.0	1.0	4.0	0.6
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	3.1	30.0	33.1	2.9	30.6	33.5	0.4
27	Rate 100	0.0	11.3	11.3	0.0	11.5	11.5	0.2
28	Rate T1	0.0	13.5	13.5	0.0	13.9	13.9	0.3
29	Rate T2	0.0	74.0	74.0	0.0	76.0	76.0	2.0
30	Rate T3	0.0	7.1	7.1	0.0	7.2	7.2	0.1
31	Rate M5	0.4	2.1	2.6	0.8	2.3	3.1	0.5
32	Rate 25	5.0	2.8	7.8	15.6	3.1	18.8	11.0
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	25.8	187.2	212.9	41.1	195.7	236.8	23.9
35	Total Contract	62.7	249.8	312.5	91.6	265.2	356.8	44.2
36	Subtotal	3,695.6	563.8	4,259.4	4,130.0	526.8	4,656.8	397.4

Comparison of Normalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(13.4)			(18.0)	(4.6)
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(14.0)			(16.2)	(2.2)
40	Average Use/ Normalized Average Consumption	EGD (1)		(4.6)			15.4	20.0
41	Dawn Access Cost	EGD		2.1			2.0	(0.1)
42	Incremental Capital Module	EGD		(0.3)			0.2	0.5
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.6			0.7	0.1
48	Greenhouse Gas Emissions Administration	EGD		0.2			0.1	(0.1)
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		(3.9)			0.0	3.9

Comparison of Normalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences Reversal	EGD		3.9			0.0	(3.9)
51	Average Use/ Normalized Average Consumption	Union (2)		7.2			19.0	11.8
52	Parkway Obligation Rate Variance	Union		0.0				0.0
53	Incremental Capital Module	Union		(5.6)			(14.0)	(8.4)
54	Capital Pass-through	Union		(1.1)			(4.4)	(3.3)
55	LRAM	Union		1.4			0.7	(0.7)
56	Federal Carbon Program	Union		1.2			1.5	0.3
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(17.7)			(17.2)	0.5
58	Miscellaneous	EGI		0.7			1.4	0.7
59	Total			(31.3)			(16.8)	14.5
60	Total Utility Revenue			4,228.1			4,640.1	412.0

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Normalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,810.6	18.9	1,829.5	1,913.1	28.4	1,941.6	112.0
2	Rate 6	807.3	152.6	959.9	876.7	155.2	1,031.9	72.0
3	Rate 9	0.0	(0.0)	0.0	0.0	0.0	0.0	(0.0)
4	Total - EGD Rate Zone	2,617.9	171.6	2,789.5	2,789.8	183.6	2,973.5	184.0
5	Rate M1	881.4	18.7	900.1	924.6	20.0	944.6	44.4
6	Rate M2	114.6	36.8	151.4	131.1	41.4	172.5	21.2
7	Rate 01	381.5	13.4	395.0	390.9	15.4	406.2	11.2
8	Rate 10	43.0	21.1	64.1	43.2	25.0	68.2	4.0
9	Total - Union Rate Zone	1,420.5	90.1	1,510.6	1,489.7	101.8	1,591.5	80.9
10	Total General Service	4,038.4	261.6	4,300.1	4,279.5	285.4	4,564.9	264.9
	Contract							
11	Rate 100	2.9	1.8	4.7	2.7	1.5	4.2	(0.5)
12	Rate 110	16.7	40.4	57.1	15.3	40.5	55.8	(1.4)
13	Rate 115	0.2	8.2	8.4	0.1	8.8	8.9	0.6
14	Rate 125	0.0	11.9	11.9	0.0	12.0	12.0	0.1
15	Rate 135	0.6	1.6	2.2	0.4	1.6	2.0	(0.2)
16	Rate 145	0.0	1.9	1.9	0.1	1.8	1.9	(0.0)

Comparison of Normalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1.1	1.3	2.3	0.1	2.6	2.8	0.5
18	Rate 200	29.1	2.4	31.5	34.3	1.7	36.1	4.6
19	Rate 300	0.0	0.1	0.1	0.0	0.0	0.0	(0.0)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
21	Total - EGD Rate Zone	50.5	69.5	120.0	53.1	70.5	123.6	3.7
22	Rate M4	12.0	28.8	40.8	12.8	29.7	42.6	1.7
23	Rate M7	6.7	21.2	27.9	7.6	23.8	31.4	3.5
24	Rate M9	3.0	1.0	4.0	3.3	1.2	4.5	0.4
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	2.9	30.6	33.5	2.7	31.8	34.5	1.0
27	Rate 100	0.0	11.5	11.5	0.0	11.8	11.8	0.3
28	Rate T1	0.0	13.9	13.9	0.0	14.0	14.0	0.1
29	Rate T2	0.0	76.0	76.0	0.0	78.7	78.7	2.6
30	Rate T3	0.0	7.2	7.2	0.0	7.5	7.5	0.3
31	Rate M5	0.8	2.3	3.1	0.9	2.4	3.3	0.2
32	Rate 25	15.6	3.1	18.8	2.5	4.1	6.6	(12.2)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	41.1	195.7	236.8	29.9	205.0	234.9	(1.9)
35	Total Contract	91.6	265.2	356.8	83.0	275.5	358.5	1.8
36	Subtotal	4,130.0	526.8	4,656.8	4,362.5	560.9	4,923.5	266.6

Comparison of Normalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(18.0)			(34.1)	(16.1)
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(16.2)			(15.5)	0.7
40	Average Use/ Normalized Average Consumption	EGD (1)		15.4			4.1	(11.3)
41	Dawn Access Cost	EGD		2.0			1.2	(0.8)
42	Incremental Capital Module	EGD		0.2			(9.4)	(9.6)
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.7			0.0	(0.7)
48	Greenhouse Gas Emissions Administration	EGD		0.1			0.0	(0.1)
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0

Comparison of Normalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences Reversal	EGD		0.0			0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)		19.0			9.4	(9.6)
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(14.0)			(4.4)	9.6
54	Capital Pass-through	Union		(4.4)			(3.6)	0.8
55	LRAM	Union		0.7			0.4	(0.3)
56	Federal Carbon Program	Union		1.5			0.0	(1.5)
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(17.2)			(16.7)	0.5
58	Miscellaneous	EGI		1.4			0.0	(1.4)
59	Total			(16.8)			(56.7)	(39.8)
60	Total Utility Revenue			4,640.1			4,866.7	226.6

Notes:
(1) EGD rate zone.
(2) Union rate zones.

Comparison of Normalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,913.1	28.4	1,941.6	2,193.3	19.1	2,212.3	270.8
2	Rate 6	876.7	155.2	1,031.9	1,043.3	163.3	1,206.6	174.7
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,789.8	183.6	2,973.5	3,236.6	182.4	3,418.9	445.5
5	Rate M1	924.6	20.0	944.6	1,109.5	20.5	1,130.0	185.4
6	Rate M2	131.1	41.4	172.5	173.9	44.7	218.6	46.1
7	Rate 01	390.9	15.4	406.2	467.5	14.0	481.5	75.3
8	Rate 10	43.2	25.0	68.2	65.9	23.9	89.8	21.6
9	Total - Union Rate Zone	1,489.7	101.8	1,591.5	1,816.8	103.1	1,919.9	328.4
10	Total General Service	4,279.5	285.4	4,564.9	5,053.4	285.4	5,338.8	773.9
	Contract							
11	Rate 100	2.7	1.5	4.2	4.3	1.4	5.7	1.5
12	Rate 110	15.3	40.5	55.8	26.4	41.9	68.3	12.5
13	Rate 115	0.1	8.8	8.9	0.4	9.1	9.6	0.6
14	Rate 125	0.0	12.0	12.0	0.0	12.5	12.5	0.5
15	Rate 135	0.4	1.6	2.0	1.2	1.3	2.5	0.4
16	Rate 145	0.1	1.8	1.9	0.2	1.6	1.8	(0.1)

Comparison of Normalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0.1	2.6	2.8	1.2	1.1	2.3	(0.5)
18	Rate 200	34.3	1.7	36.1	36.5	1.7	38.1	2.1
19	Rate 300	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
21	Total - EGD Rate Zone	53.1	70.5	123.6	70.1	70.5	140.7	17.0
22	Rate M4	12.8	29.7	42.6	16.7	31.1	47.8	5.3
23	Rate M7	7.6	23.8	31.4	10.5	25.6	36.1	4.7
24	Rate M9	3.3	1.2	4.5	3.9	1.3	5.2	0.7
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	2.7	31.8	34.5	4.9	34.7	39.6	5.0
27	Rate 100	0.0	11.8	11.8	0.0	11.4	11.4	(0.4)
28	Rate T1	0.0	14.0	14.0	0.0	14.4	14.4	0.4
29	Rate T2	0.0	78.7	78.7	0.0	79.3	79.3	0.6
30	Rate T3	0.0	7.5	7.5	0.0	7.8	7.8	0.3
31	Rate M5	0.9	2.4	3.3	0.7	2.5	3.2	(0.1)
32	Rate 25	2.5	4.1	6.6	2.0	4.1	6.0	(0.5)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	29.9	205.0	234.9	38.7	212.2	250.9	16.0
35	Total Contract	83.0	275.5	358.5	108.8	282.7	391.5	33.0
36	Subtotal	4,362.5	560.9	4,923.5	5,162.2	568.1	5,730.3	806.9

Comparison of Normalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Year Over/(Under)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(34.1)			(27.5)	6.6
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(15.5)			(33.4)	(17.9)
40	Average Use/ Normalized Average Consumption	EGD (1)		4.1			0.0	(4.1)
41	Dawn Access Cost	EGD		1.2			0.0	(1.2)
42	Incremental Capital Module	EGD		(9.4)			6.9	16.4
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.0			0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD		0.0			0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0

Comparison of Normalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Year Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences Reversal	EGD		0.0			0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)		9.4			(6.1)	(15.5)
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(4.4)			1.2	5.6
54	Capital Pass-through	Union		(3.6)			(2.9)	0.7
55	LRAM	Union		0.4			0.4	0.0
56	Federal Carbon Program	Union		0.0			0.0	(0.0)
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(16.7)			(16.4)	0.3
58	Miscellaneous	EGI		0.0			0.0	0.0
59	Total			(56.7)			(65.8)	(9.1)
60	Total Utility Revenue			4,866.7			5,664.5	797.8

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Normalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,193.3	19.1	2,212.3	2,189.2	17.1	2,206.4	(5.9)
2	Rate 6	1,043.3	163.3	1,206.6	1,029.6	161.1	1,190.7	(15.9)
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	3,236.6	182.4	3,418.9	3,218.9	178.2	3,397.1	(21.8)
5	Rate M1	1,109.5	20.5	1,130.0	1,221.6	20.6	1,242.2	112.2
6	Rate M2	173.9	44.7	218.6	203.4	44.8	248.3	29.7
7	Rate 01	467.5	14.0	481.5	470.6	13.6	484.2	2.7
8	Rate 10	65.9	23.9	89.8	59.2	23.2	82.4	(7.4)
9	Total - Union Rate Zone	1,816.8	103.1	1,919.9	1,954.8	102.3	2,057.1	137.2
10	Total General Service	5,053.4	285.4	5,338.8	5,173.7	280.5	5,454.2	115.4
	Contract							
11	Rate 100	4.3	1.4	5.7	4.2	1.4	5.6	(0.1)
12	Rate 110	26.4	41.9	68.3	26.3	41.7	68.1	(0.3)
13	Rate 115	0.4	9.1	9.6	0.4	9.1	9.5	(0.1)
14	Rate 125	0.0	12.5	12.5	0.0	12.5	12.5	0.0
15	Rate 135	1.2	1.3	2.5	1.1	1.3	2.3	(0.2)
16	Rate 145	0.2	1.6	1.8	0.2	1.6	1.8	0.0

Comparison of Normalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1.2	1.1	2.3	1.2	1.1	2.3	(0.0)
18	Rate 200	36.5	1.7	38.1	36.9	1.7	38.6	0.5
19	Rate 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	70.1	70.5	140.7	70.3	70.3	140.6	(0.1)
22	Rate M4	16.7	31.1	47.8	17.7	31.9	49.6	1.8
23	Rate M7	10.5	25.6	36.1	9.9	27.8	37.8	1.7
24	Rate M9	3.9	1.3	5.2	4.2	1.3	5.4	0.3
25	Rate M10	0.1	0.0	0.1	0.0	0.0	0.0	(0.1)
26	Rate 20	4.9	34.7	39.6	5.4	35.2	40.7	1.1
27	Rate 100	0.0	11.4	11.4	0.0	11.8	11.8	0.4
28	Rate T1	0.0	14.4	14.4	0.0	14.4	14.4	0.0
29	Rate T2	0.0	79.3	79.3	0.0	79.8	79.8	0.5
30	Rate T3	0.0	7.8	7.8	0.0	7.8	7.8	0.0
31	Rate M5	0.7	2.5	3.2	0.8	2.5	3.3	0.1
32	Rate 25	2.0	4.1	6.0	1.6	4.6	6.2	0.2
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	38.7	212.2	250.9	39.6	217.2	256.8	6.0
35	Total Contract	108.8	282.7	391.5	109.8	287.6	397.4	5.9
36	Subtotal	5,162.2	568.1	5,730.3	5,283.5	568.1	5,851.6	121.3

Comparison of Normalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Year Over/(Under) 2023 Bridge Year
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(27.5)			0.0	27.5
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(33.4)			0.0	33.4
40	Average Use/ Normalized Average Consumption	EGD (1)		0.0			0.0	0.0
41	Dawn Access Cost	EGD		0.0			0.0	0.0
42	Incremental Capital Module	EGD		6.9			0.0	(6.9)
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			0.0	(12.0)
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.0			0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD		0.0			0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0

Comparison of Normalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Year Over/(Under) 2023 Bridge Year
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences Reversal	EGD		0.0			0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)		(6.1)			0.0	6.1
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		1.2			0.0	(1.2)
54	Capital Pass-through	Union		(2.9)			0.0	2.9
55	LRAM	Union		0.4			0.0	(0.4)
56	Federal Carbon Program	Union		0.0			0.0	0.0
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(16.4)			0.0	16.4
58	Miscellaneous	EGI		0.0			0.0	0.0
59	Total			(65.8)			0.0	65.8
60	Total Utility Revenue			5,664.5			5,851.6	187.1

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Average Customers - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	General Service								
1	Rate 1	EGD	1,862,034	1,869,324	1,901,207	1,930,657	1,959,569	1,990,032	2,017,128
2	Rate 6	EGD	158,495	160,257	162,229	163,634	164,692	166,224	167,215
3	Rate 9	EGD	9	8	7	6	6	3	2
4	Total - EGD Rate Zone		2,020,538	2,029,589	2,063,443	2,094,297	2,124,267	2,156,259	2,184,345
5	Rate M1	Union	1,067,757	1,056,943	1,070,181	1,083,032	1,097,031	1,111,544	1,127,353
6	Rate M2	Union	6,778	6,708	6,944	7,437	7,730	7,553	7,469
7	Rate 01	Union	323,287	321,231	327,563	333,773	339,334	344,458	349,354
8	Rate 10	Union	2,064	2,043	2,027	2,152	2,219	2,192	2,118
9	Total - Union Rate Zone		1,399,886	1,386,925	1,406,715	1,426,394	1,446,314	1,465,747	1,486,294
10	Total General Service		3,420,424	3,416,514	3,470,158	3,520,691	3,570,581	3,622,006	3,670,639
	Contract								
11	Rate 100	EGD	0	4	2	2	2	3	3
12	Rate 110	EGD	201	192	191	227	269	263	274
13	Rate 115	EGD	30	27	30	25	27	27	26
14	Rate 125	EGD	5	5	5	5	5	4	4
15	Rate 135	EGD	38	41	43	42	45	45	43
16	Rate 145	EGD	108	104	86	52	38	37	33
17	Rate 170	EGD	38	35	34	26	25	26	27
18	Rate 200	EGD	1	1	1	1	1	1	1
19	Rate 300	EGD	3	3	2	2	2	2	2
20	Rate 315	EGD	0	0	0	2	2	1	1
21	Total - EGD Rate Zone		424	412	394	384	416	409	414

Average Customers - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
22	Rate M4	Union	115	143	149	156	165	185	208
23	Rate M7	Union	4	4	24	28	28	30	30
24	Rate M9	Union	3	2	2	2	2	3	3
25	Rate M10	Union	2	2	2	2	2	2	3
26	Rate 20	Union	63	48	48	50	47	46	44
27	Rate 100	Union	17	15	14	10	11	11	11
28	Rate T1	Union	35	38	37	37	37	37	37
29	Rate T2	Union	29	22	22	22	22	23	24
30	Rate T3	Union	1	1	1	1	1	1	1
31	Rate M5	Union	144	121	92	80	72	59	38
32	Rate 25	Union	92	88	84	80	78	79	78
33	Rate 30	Union	0	0	1	0	0	0	0
34	Total - Union Rate Zone		505	484	476	468	465	476	477
35	Total Contract		929	896	870	852	881	885	891
36	Total Customers		3,421,353	3,417,410	3,471,028	3,521,543	3,571,462	3,622,891	3,671,530

Average Customers - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service							
1	Rate 1	EGI	2,042,127	2,064,532	2,087,370	2,111,749	2,135,521	2,158,512
2	Rate 6	EGI	168,190	169,084	169,867	170,672	171,753	172,843
3	Rate 9	EGI	2	2	2	0	0	0
4	Total - EGD Rate Zone		2,210,319	2,233,618	2,257,238	2,282,422	2,307,273	2,331,355
5	Rate M1	EGI	1,141,279	1,154,987	1,167,200	1,178,934	1,190,646	1,202,887
6	Rate M2	EGI	7,783	7,863	7,934	7,960	8,013	8,069
7	Rate 01	EGI	353,643	357,603	360,849	363,646	366,375	369,169
8	Rate 10	EGI	2,144	2,201	2,200	2,198	2,200	2,204
9	Total - Union Rate Zone		1,504,849	1,522,654	1,538,182	1,552,738	1,567,234	1,582,329
10	Total General Service		3,715,168	3,756,272	3,795,420	3,835,160	3,874,507	3,913,684
	Contract							
11	Rate 100	EGI	4	9	15	15	14	14
12	Rate 110	EGI	282	335	392	396	416	416
13	Rate 115	EGI	22	20	21	16	22	22
14	Rate 125	EGI	4	4	4	4	4	4
15	Rate 135	EGI	43	40	42	41	41	41
16	Rate 145	EGI	26	22	19	13	16	16
17	Rate 170	EGI	23	21	22	17	22	22
18	Rate 200	EGI	0	1	1	1	1	1
19	Rate 300	EGI	1	2	2	2	0	0
20	Rate 315	EGI	0	0	0	0	0	0
21	Total - EGD Rate Zone		405	454	517	505	536	536

Average Customers - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
22	Rate M4	EGI	232	239	230	228	225	225
23	Rate M7	EGI	36	47	56	62	62	61
24	Rate M9	EGI	4	4	4	4	4	4
25	Rate M10	EGI	2	2	2	2	2	0
26	Rate 20	EGI	54	57	58	60	62	62
27	Rate 100	EGI	12	12	12	12	12	12
28	Rate T1	EGI	37	39	39	39	39	39
29	Rate T2	EGI	25	25	25	25	25	26
30	Rate T3	EGI	1	1	1	1	1	1
31	Rate M5	EGI	42	38	39	37	38	38
32	Rate 25	EGI	55	52	52	65	25	25
33	Rate 30	EGI	0	0	0	0	0	0
34	Total - Union Rate Zone		500	515	519	535	494	492
35	Total Contract		905	969	1,036	1,040	1,030	1,028
36	Total Customers		3,716,073	3,757,241	3,796,456	3,836,200	3,875,537	3,914,712

Average Customers - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service - Sector							
37	Residential	EGI	3,424,068	3,463,393	3,501,050	3,539,427	3,577,066	3,613,542
38	Commercial	EGI	280,104	281,892	283,411	284,796	286,523	289,171
39	Industrial	EGI	10,996	10,987	10,960	10,937	10,918	10,971
40	Total		3,715,168	3,756,272	3,795,420	3,835,160	3,874,507	3,913,684
	Contract - Sector							
41	Automotive	EGI	6	7	8	8	8	8
42	Buildings	EGI	155	176	215	215	216	216
43	Chemical	EGI	58	58	56	56	57	57
44	Food & Beverage	EGI	149	156	160	161	159	159
45	Greenhouse - Agricultural	EGI	133	141	144	145	145	145
46	Manufacturing	EGI	233	236	229	230	229	230
47	Mining	EGI	25	25	24	24	24	24
48	Other	EGI	21	40	64	63	57	55
49	Power	EGI	35	37	40	41	40	39
50	Pulp & Paper	EGI	68	70	71	71	70	70
51	Refining	EGI	7	8	8	8	8	8
52	Steel	EGI	17	17	17	18	17	17
53	Total		905	969	1,036	1,040	1,030	1,028
54	Total Customers		3,716,073	3,757,241	3,796,456	3,836,200	3,875,537	3,914,712

Comparison of Average Customers - Service Type & Rate Class - 2019 Actual & 2020 Actual

Line No.	Particulars	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,985,346	56,781	2,042,127	2,020,078	44,454	2,064,532	22,405
2	Rate 6	144,944	23,246	168,190	145,283	23,801	169,084	894
3	Rate 9	2	0	2	2	0	2	0
4	Total - EGD Rate Zone	2,130,292	80,027	2,210,319	2,165,363	68,255	2,233,618	23,299
5	Rate M1	1,095,866	45,414	1,141,279	1,116,562	38,425	1,154,987	13,708
6	Rate M2	4,479	3,304	7,783	4,364	3,499	7,863	80
7	Rate 01	337,741	15,902	353,643	343,976	13,627	357,603	3,960
8	Rate 10	1,242	902	2,144	1,242	959	2,201	57
9	Total - Union Rate Zone	1,439,328	65,522	1,504,849	1,466,144	56,510	1,522,654	17,805
10	Total General Service	3,569,620	145,549	3,715,168	3,631,507	124,765	3,756,272	41,104
	Contract							
11	Rate 100	2	2	4	2	7	9	5
12	Rate 110	48	234	282	57	278	335	53
13	Rate 115	1	21	22	1	19	20	(2)
14	Rate 125	4	0	4	4	0	4	0
15	Rate 135	3	40	43	5	35	40	(3)
16	Rate 145	3	23	26	3	19	22	(4)

Comparison of Average Customers - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	3	20	23	3	18	21	(2)
18	Rate 200	0	0	0	1	0	1	1
19	Rate 300	1	0	1	2	0	2	1
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	65	340	405	78	376	454	49
22	Rate M4	28	205	232	31	208	239	7
23	Rate M7	3	34	36	4	43	47	10
24	Rate M9	1	3	4	1	3	4	0
25	Rate M10	2	0	2	2	0	2	0
26	Rate 20	5	49	54	4	52	57	3
27	Rate 100	0	12	12	0	12	12	0
28	Rate T1	0	37	37	0	39	39	2
29	Rate T2	0	25	25	0	25	25	0
30	Rate T3	0	1	1	0	1	1	0
31	Rate M5	5	36	42	4	34	38	(4)
32	Rate 25	31	24	55	31	21	52	(3)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	75	426	500	77	438	515	15
35	Total Contract	140	766	905	155	814	969	64
36	Total Customers	3,569,759	146,314	3,716,073	3,631,662	125,579	3,757,241	41,167

Comparison of Average Customers - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	3,318,122	105,946	3,424,068	3,379,666	83,727	3,463,393	39,325
38	Commercial	242,284	37,820	280,104	242,657	39,235	281,892	1,788
39	Industrial	9,214	1,782	10,996	9,184	1,803	10,987	(9)
40	Total	3,569,620	145,549	3,715,168	3,631,507	124,765	3,756,272	41,104
	Contract - Sector							
41	Automotive	0	6	6	0	7	7	1
42	Buildings	20	136	155	19	157	176	21
43	Chemical	5	53	58	5	53	58	0
44	Food & Beverage	24	125	149	23	133	156	8
45	Greenhouse - Agricultural	13	120	133	13	128	141	8
46	Manufacturing	31	202	233	31	205	236	3
47	Mining	7	18	25	7	18	25	0
48	Other	21	0	21	35	5	40	18
49	Power	5	30	35	8	29	37	2
50	Pulp & Paper	12	56	68	12	58	70	2
51	Refining	0	7	7	1	7	8	1
52	Steel	2	14	17	2	14	17	0
53	Total	140	766	905	155	814	969	64
54	Total Customers	3,569,759	146,314	3,716,073	3,631,662	125,579	3,757,241	41,167

Comparison of Average Customers - Service Type & Rate Class - 2020 Actual & 2021 Actual

Line No.	Particulars	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(d)	(e)	(f)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,020,078	44,454	2,064,532	2,050,866	36,504	2,087,370	22,838
2	Rate 6	145,283	23,801	169,084	146,714	23,153	169,867	783
3	Rate 9	2	0	2	2	0	2	0
4	Total - EGD Rate Zone	2,165,363	68,255	2,233,618	2,197,582	59,656	2,257,238	23,620
5	Rate M1	1,116,562	38,425	1,154,987	1,134,573	32,627	1,167,200	12,213
6	Rate M2	4,364	3,499	7,863	4,464	3,470	7,934	71
7	Rate 01	343,976	13,627	357,603	349,579	11,270	360,849	3,246
8	Rate 10	1,242	959	2,201	1,269	931	2,200	(2)
9	Total - Union Rate Zone	1,466,144	56,510	1,522,654	1,489,884	48,297	1,538,182	15,528
10	Total General Service	3,631,507	124,765	3,756,272	3,687,467	107,953	3,795,420	39,148
	Contract							
11	Rate 100	2	7	9	4	11	15	6
12	Rate 110	57	278	335	59	333	392	57
13	Rate 115	1	19	20	1	19	21	1
14	Rate 125	4	0	4	0	4	4	0
15	Rate 135	5	35	40	4	38	42	2
16	Rate 145	3	19	22	1	18	19	(3)

Comparison of Average Customers - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(d)	(e)	(f)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	3	18	21	2	20	22	1
18	Rate 200	1	0	1	1	0	1	0
19	Rate 300	2	0	2	0	2	2	0
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	78	376	454	73	444	517	63
22	Rate M4	31	208	239	33	196	230	(9)
23	Rate M7	4	43	47	5	52	56	10
24	Rate M9	1	3	4	1	3	4	0
25	Rate M10	2	0	2	2	0	2	0
26	Rate 20	4	52	57	4	54	58	2
27	Rate 100	0	12	12	0	12	12	0
28	Rate T1	0	39	39	0	39	39	(0)
29	Rate T2	0	25	25	0	25	25	(0)
30	Rate T3	0	1	1	0	1	1	0
31	Rate M5	4	34	38	5	34	39	1
32	Rate 25	31	21	52	31	21	52	1
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	77	438	515	82	437	519	4
35	Total Contract	155	814	969	156	881	1,036	67
36	Total Customers	3,631,662	125,579	3,757,241	3,687,622	108,834	3,796,456	39,215

Comparison of Average Customers - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(d)	(e)	(f)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	3,379,666	83,727	3,463,393	3,432,269	68,780	3,501,050	37,657
38	Commercial	242,657	39,235	281,892	245,964	37,447	283,411	1,519
39	Industrial	9,184	1,803	10,987	9,234	1,726	10,960	(27)
40	Total	3,631,507	124,765	3,756,272	3,687,467	107,953	3,795,420	39,148
	Contract - Sector							
41	Automotive	0	7	7	0	8	8	1
42	Buildings	19	157	176	20	195	215	39
43	Chemical	5	53	58	5	51	56	(2)
44	Food & Beverage	23	133	156	25	136	160	4
45	Greenhouse - Agricultural	13	128	141	19	126	144	3
46	Manufacturing	31	205	236	29	201	229	(6)
47	Mining	7	18	25	6	18	24	(1)
48	Other	35	5	40	29	35	64	24
49	Power	8	29	37	8	32	40	3
50	Pulp & Paper	12	58	70	13	58	71	1
51	Refining	1	7	8	0	8	8	0
52	Steel	2	14	17	3	15	17	1
53	Total	155	814	969	156	881	1,036	67
54	Total Customers	3,631,662	125,579	3,757,241	3,687,622	108,834	3,796,456	39,215

Comparison of Average Customers - Service Type & Rate Class - 2021 Actual & 2022 Estimate

Line No.	Particulars	2021 Actual			2022 Estimate			2022 Estimate Over/(Under)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,050,866	36,504	2,087,370	2,078,172	33,577	2,111,749	24,379
2	Rate 6	146,714	23,153	169,867	148,058	22,614	170,672	806
3	Rate 9	2	0	2	0	0	0	(2)
4	Total - EGD Rate Zone	2,197,582	59,656	2,257,238	2,226,230	56,191	2,282,422	25,183
5	Rate M1	1,134,573	32,627	1,167,200	1,147,595	31,340	1,178,934	11,735
6	Rate M2	4,464	3,470	7,934	4,490	3,469	7,960	26
7	Rate 01	349,579	11,270	360,849	352,786	10,860	363,646	2,798
8	Rate 10	1,269	931	2,200	1,305	893	2,198	(2)
9	Total - Union Rate Zone	1,489,884	48,297	1,538,182	1,506,176	46,562	1,552,738	14,557
10	Total General Service	3,687,467	107,953	3,795,420	3,732,406	102,753	3,835,160	39,740
	Contract							
11	Rate 100	4	11	15	4	11	15	0
12	Rate 110	59	333	392	58	338	396	4
13	Rate 115	1	19	21	1	15	16	(5)
14	Rate 125	0	4	4	0	4	4	0
15	Rate 135	4	38	42	6	35	41	(1)
16	Rate 145	1	18	19	1	12	13	(6)

Comparison of Average Customers - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars	2021 Actual			2022 Estimate			2022 Estimate Over/(Under)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	2	20	22	0	17	17	(5)
18	Rate 200	1	0	1	1	0	1	0
19	Rate 300	0	2	2	0	2	2	0
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	73	444	517	71	434	505	(12)
22	Rate M4	33	196	230	36	192	228	(2)
23	Rate M7	5	52	56	5	57	62	6
24	Rate M9	1	3	4	1	3	4	0
25	Rate M10	2	0	2	2	0	2	(0)
26	Rate 20	4	54	58	5	55	60	2
27	Rate 100	0	12	12	0	12	12	0
28	Rate T1	0	39	39	0	39	39	0
29	Rate T2	0	25	25	0	25	25	0
30	Rate T3	0	1	1	0	1	1	0
31	Rate M5	5	34	39	4	33	37	(2)
32	Rate 25	31	21	52	35	30	65	13
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	82	437	519	88	447	535	16
35	Total Contract	156	881	1,036	159	881	1,040	4
36	Total Customers	3,687,622	108,834	3,796,456	3,732,565	103,634	3,836,200	39,744

Comparison of Average Customers - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars	2021 Actual			2022 Estimate			2022 Estimate Over/(Under)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	3,432,269	68,780	3,501,050	3,475,627	63,799	3,539,427	38,377
38	Commercial	245,964	37,447	283,411	247,386	37,410	284,796	1,386
39	Industrial	9,234	1,726	10,960	9,262	1,674	10,937	(23)
40	Total	3,687,467	107,953	3,795,420	3,732,276	102,884	3,835,160	39,740
	Contract - Sector							
41	Automotive	0	8	8	0	8	8	0
42	Buildings	20	195	215	20	195	215	1
43	Chemical	5	51	56	5	51	56	(0)
44	Food & Beverage	25	136	160	25	136	161	1
45	Greenhouse - Agricultural	19	126	144	19	126	145	1
46	Manufacturing	29	201	229	29	201	230	1
47	Mining	6	18	24	6	18	24	0
48	Other	29	35	64	30	33	63	(1)
49	Power	8	32	40	9	32	41	1
50	Pulp & Paper	13	58	71	13	58	71	0
51	Refining	0	8	8	0	8	8	0
52	Steel	3	15	17	3	15	18	1
53	Total	156	881	1,036	159	881	1,040	4
54	Total Customers	3,687,622	108,834	3,796,456	3,732,435	103,765	3,836,200	39,744

Comparison of Average Customers - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,078,172	33,577	2,111,749	2,107,559	27,962	2,135,521	23,771
2	Rate 6	148,058	22,614	170,672	153,560	18,193	171,753	1,081
3	Rate 9	0	0	0	0	0	0	0
4	Total - EGD Rate Zone	2,226,230	56,191	2,282,422	2,261,119	46,154	2,307,273	24,852
5	Rate M1	1,147,595	31,340	1,178,934	1,159,670	30,976	1,190,646	11,712
6	Rate M2	4,490	3,469	7,960	4,561	3,452	8,013	53
7	Rate 01	352,786	10,860	363,646	355,685	10,690	366,375	2,728
8	Rate 10	1,305	893	2,198	1,247	953	2,200	2
9	Total - Union Rate Zone	1,506,176	46,562	1,552,738	1,521,163	46,071	1,567,234	14,496
10	Total General Service	3,732,406	102,753	3,835,160	3,782,282	92,225	3,874,507	39,348
	Contract							
11	Rate 100	4	11	15	4	10	14	(1)
12	Rate 110	58	338	396	58	358	416	20
13	Rate 115	1	15	16	2	20	22	6
14	Rate 125	0	4	4	0	4	4	0
15	Rate 135	6	35	41	3	38	41	0
16	Rate 145	1	12	13	1	15	16	3

Comparison of Average Customers - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0	17	17	1	21	22	5
18	Rate 200	1	0	1	1	0	1	0
19	Rate 300	0	2	2	0	0	0	(2)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	71	434	505	70	466	536	31
22	Rate M4	36	192	228	33	192	225	(3)
23	Rate M7	5	57	62	5	57	62	(0)
24	Rate M9	1	3	4	1	3	4	0
25	Rate M10	2	0	2	2	0	2	0
26	Rate 20	5	55	60	5	57	62	2
27	Rate 100	0	12	12	0	12	12	(0)
28	Rate T1	0	39	39	0	39	39	0
29	Rate T2	0	25	25	0	25	25	0
30	Rate T3	0	1	1	0	1	1	0
31	Rate M5	4	33	37	4	34	38	1
32	Rate 25	35	30	65	2	23	25	(40)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	88	447	535	52	442	494	(41)
35	Total Contract	159	881	1,040	122	908	1,030	(10)
36	Total Customers	3,732,565	103,634	3,836,200	3,782,404	93,133	3,875,537	39,338

Comparison of Average Customers - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	3,475,627	63,799	3,539,427	3,519,206	57,861	3,577,066	37,640
38	Commercial	247,386	37,410	284,796	253,560	32,963	286,523	1,727
39	Industrial	9,262	1,674	10,937	9,516	1,402	10,918	(19)
40	Total	3,732,276	102,884	3,835,160	3,782,282	92,225	3,874,507	39,348
	Contract - Sector							
41	Automotive	0	8	8	0	8	8	0
42	Buildings	20	195	215	15	201	216	1
43	Chemical	5	51	56	4	53	57	1
44	Food & Beverage	25	136	161	19	140	159	(2)
45	Greenhouse - Agricultural	19	126	145	15	130	145	0
46	Manufacturing	29	201	230	22	207	229	(1)
47	Mining	6	18	24	5	19	24	0
48	Other	30	33	63	23	34	57	(6)
49	Power	9	32	41	7	33	40	(1)
50	Pulp & Paper	13	58	71	10	60	70	(1)
51	Refining	0	8	8	0	8	8	0
52	Steel	3	15	18	2	15	17	(1)
53	Total	159	881	1,040	122	908	1,030	(10)
54	Total Customers	3,732,435	103,765	3,836,200	3,782,404	93,133	3,875,537	39,338

Comparison of Average Customers - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,107,559	27,962	2,135,521	2,133,236	25,277	2,158,512	22,992
2	Rate 6	153,560	18,193	171,753	154,828	18,015	172,843	1,090
3	Rate 9	0	0	0	0	0	0	0
4	Total - EGD Rate Zone	2,261,119	46,154	2,307,273	2,288,064	43,291	2,331,355	24,082
5	Rate M1	1,159,670	30,976	1,190,646	1,171,911	30,976	1,202,887	12,241
6	Rate M2	4,561	3,452	8,013	4,617	3,452	8,069	56
7	Rate 01	355,685	10,690	366,375	358,479	10,690	369,169	2,794
8	Rate 10	1,247	953	2,200	1,251	953	2,204	4
9	Total - Union Rate Zone	1,521,163	46,071	1,567,234	1,536,258	46,071	1,582,329	15,095
10	Total General Service	3,782,282	92,225	3,874,507	3,824,321	89,362	3,913,684	39,177
	Contract							
11	Rate 100	4	10	14	4	10	14	0
12	Rate 110	58	358	416	58	358	416	0
13	Rate 115	2	20	22	2	20	22	0
14	Rate 125	0	4	4	0	4	4	0
15	Rate 135	3	38	41	3	38	41	0
16	Rate 145	1	15	16	1	15	16	(0)

Comparison of Average Customers - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1	21	22	1	21	22	(0)
18	Rate 200	1	0	1	1	0	1	0
19	Rate 300	0	0	0	0	0	0	0
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	70	466	536	70	466	536	(0)
22	Rate M4	33	192	225	33	192	225	0
23	Rate M7	5	57	62	4	57	61	(1)
24	Rate M9	1	3	4	1	3	4	0
25	Rate M10	2	0	2	0	0	0	(2)
26	Rate 20	5	57	62	5	57	62	0
27	Rate 100	0	12	12	0	12	12	0
28	Rate T1	0	39	39	0	39	39	0
29	Rate T2	0	25	25	0	26	26	1
30	Rate T3	0	1	1	0	1	1	0
31	Rate M5	4	34	38	4	34	38	0
32	Rate 25	2	23	25	2	23	25	(0)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	52	442	494	49	443	492	(2)
35	Total Contract	122	908	1,030	119	909	1,028	(2)
36	Total Customers	3,782,404	93,133	3,875,537	3,824,440	90,272	3,914,712	39,175

Comparison of Average Customers - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	3,519,206	57,861	3,577,066	3,558,367	55,176	3,613,542	36,476
38	Commercial	253,560	32,963	286,523	256,375	32,796	289,171	2,648
39	Industrial	9,516	1,402	10,918	9,580	1,391	10,971	53
40	Total	3,782,282	92,225	3,874,507	3,824,321	89,362	3,913,684	39,177
	Contract - Sector							
41	Automotive	0	8	8	0	8	8	0
42	Buildings	15	201	216	15	201	216	0
43	Chemical	4	53	57	4	53	57	0
44	Food & Beverage	19	140	159	19	140	159	0
45	Greenhouse - Agricultural	15	130	145	15	130	145	0
46	Manufacturing	22	207	229	22	208	230	1
47	Mining	5	19	24	5	19	24	0
48	Other	23	34	57	21	34	55	(2)
49	Power	7	33	40	6	33	39	(1)
50	Pulp & Paper	10	60	70	10	60	70	0
51	Refining	0	8	8	0	8	8	0
52	Steel	2	15	17	2	15	17	0
53	Total	122	908	1,030	119	909	1,028	(2)
54	Total Customers	3,782,404	93,133	3,875,537	3,824,440	90,271	3,914,712	39,175

Throughput Volumes - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	General Service								
1	Rate 1	EGD	4,637,500	4,785,600	5,380,900	4,997,000	4,506,700	4,739,200	5,296,300
2	Rate 6	EGD	4,645,700	4,739,900	5,321,900	5,006,600	4,488,600	4,700,600	5,283,900
3	Rate 9	EGD	2,000	700	600	300	200	0	0
4	Total - EGD Rate Zone		9,285,200	9,526,200	10,703,400	10,003,900	8,995,500	9,439,800	10,580,200
5	Rate M1	Union	2,939,543	3,030,675	3,328,692	3,020,628	2,779,165	2,921,299	3,192,398
6	Rate M2	Union	975,571	1,176,964	1,284,428	1,226,506	1,174,963	1,216,844	1,293,975
7	Rate 01	Union	884,421	979,534	1,053,067	962,033	908,447	963,968	1,030,116
8	Rate 10	Union	322,887	362,073	379,430	351,747	342,884	357,062	364,734
9	Total - Union Rate Zone		5,122,423	5,549,246	6,045,617	5,560,914	5,205,459	5,459,173	5,881,223
10	Total General Service		14,407,623	15,075,446	16,749,017	15,564,814	14,200,959	14,898,973	16,461,423
	Contract								
11	Rate 100	EGD	0	3,200	4,400	3,700	3,200	1,200	2,100
12	Rate 110	EGD	487,600	522,300	528,400	667,900	827,600	798,200	845,900
13	Rate 115	EGD	539,400	568,600	539,400	512,200	497,600	508,600	499,400
14	Rate 125	EGD	0	830,883	738,469	726,900	617,490	227,478	507,609
15	Rate 135	EGD	55,200	55,400	62,700	68,600	64,600	66,000	62,600
16	Rate 145	EGD	152,800	166,500	141,700	77,500	45,700	46,100	43,300
17	Rate 170	EGD	516,400	496,800	454,900	394,800	302,200	312,700	328,100
18	Rate 200	EGD	163,100	184,300	183,200	176,400	169,600	173,900	184,400
19	Rate 300	EGD	31,000	1,014	403	493	544	461	418
20	Rate 315	EGD	0	0	0	0	0	0	0
21	Total - EGD Rate Zone		1,945,500	2,828,998	2,653,571	2,628,493	2,528,534	2,134,639	2,473,827

Throughput Volumes - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars (10^3m^3)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
22	Rate M4	Union	404,678	474,815	484,404	457,328	471,413	549,760	656,761
23	Rate M7	Union	147,143	172,283	392,256	427,707	474,216	507,692	513,836
24	Rate M9	Union	60,750	63,240	67,138	66,583	72,124	69,174	78,946
25	Rate M10	Union	189	284	312	300	248	274	410
26	Rate 20	Union	629,802	650,968	535,626	540,839	564,912	501,499	478,104
27	Rate 100	Union	1,895,488	1,926,579	1,710,928	1,398,114	1,365,738	1,029,145	1,038,045
28	Rate T1	Union	548,986	452,838	470,811	442,947	447,127	458,243	466,596
29	Rate T2	Union	4,880,297	4,241,475	4,305,103	4,368,501	4,212,740	3,762,498	4,101,435
30	Rate T3	Union	272,712	273,597	288,979	263,235	250,167	257,343	279,794
31	Rate M5	Union	535,132	524,481	259,358	208,631	194,162	140,648	74,007
32	Rate 25	Union	159,555	215,467	186,550	144,313	116,847	106,997	156,126
33	Rate 30	Union	0	0	0	0	0	0	0
34	Total - Union Rate Zone		9,534,732	8,996,027	8,701,465	8,318,498	8,169,694	7,383,273	7,844,060
35	Total Contract		11,480,232	11,825,025	11,355,036	10,946,991	10,698,228	9,517,912	10,317,887
36	Total Volumes		25,887,855	26,900,471	28,104,053	26,511,805	24,899,187	24,416,885	26,779,310

Throughput Volumes - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars (10^3m^3)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
	General Service							
1	Rate 1	EGI	5,358,589	4,894,404	4,748,722	5,211,648	5,045,468	5,001,027
2	Rate 6	EGI	5,300,022	4,650,326	4,438,432	4,910,686	4,887,113	4,795,694
3	Rate 9	EGI	0	127	3	0	0	0
4	Total - EGD Rate Zone		10,658,611	9,544,857	9,187,158	10,122,335	9,932,581	9,796,721
5	Rate M1	EGI	3,301,399	3,003,878	2,897,087	3,145,665	3,063,170	3,255,132
6	Rate M2	EGI	1,348,932	1,204,341	1,113,864	1,292,501	1,253,164	1,319,376
7	Rate 01	EGI	1,071,407	982,736	929,941	1,024,908	1,012,937	989,005
8	Rate 10	EGI	380,692	342,656	311,794	341,593	358,834	327,974
9	Total - Union Rate Zone		6,102,429	5,533,611	5,252,686	5,804,667	5,688,104	5,891,487
10	Total General Service		16,761,040	15,078,468	14,439,844	15,927,002	15,620,686	15,688,208
	Contract							
11	Rate 100	EGI	15,377	20,111	33,994	26,965	28,090	27,429
12	Rate 110	EGI	875,396	981,141	1,101,890	1,111,051	1,074,372	1,068,281
13	Rate 115	EGI	441,616	378,039	387,697	367,381	386,039	381,873
14	Rate 125	EGI	591,623	523,436	707,660	690,079	824,971	824,971
15	Rate 135	EGI	63,020	65,287	63,112	55,771	55,486	52,646
16	Rate 145	EGI	30,440	23,396	24,785	19,073	15,331	15,714
17	Rate 170	EGI	286,358	247,430	255,701	277,330	322,426	323,254
18	Rate 200	EGI	196,879	189,473	192,010	201,047	186,602	188,852
19	Rate 300	EGI	349	262	269	139	0	0
20	Rate 315	EGI	0	0	0	0	0	0
21	Total - EGD Rate Zone		2,501,058	2,428,575	2,767,118	2,748,835	2,893,316	2,883,020

Throughput Volumes - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars (10^3m^3)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
22	Rate M4	EGI	674,011	621,380	610,808	596,466	598,163	593,900
23	Rate M7	EGI	541,343	618,372	686,353	718,754	749,542	789,737
24	Rate M9	EGI	103,989	88,765	90,096	89,547	90,073	90,073
25	Rate M10	EGI	391	360	320	341	329	0
26	Rate 20	EGI	522,900	778,476	637,600	811,568	839,751	929,101
27	Rate 100	EGI	1,020,510	996,605	958,587	1,006,653	1,036,696	1,076,378
28	Rate T1	EGI	437,372	430,312	453,007	423,268	434,564	431,289
29	Rate T2	EGI	4,136,389	4,017,975	4,700,474	4,359,326	4,962,964	5,005,643
30	Rate T3	EGI	283,374	264,209	241,187	277,095	249,200	249,200
31	Rate M5	EGI	73,965	61,817	63,511	61,664	60,802	59,493
32	Rate 25	EGI	119,200	92,838	143,898	97,099	111,374	126,831
33	Rate 30	EGI	0	0	0	0	0	0
34	Total - Union Rate Zone		7,913,444	7,971,109	8,585,841	8,441,782	9,133,458	9,351,645
35	Total Contract		10,414,502	10,399,684	11,352,959	11,190,617	12,026,774	12,234,665
36	Total Volume		27,175,542	25,478,152	25,792,803	27,117,619	27,647,460	27,922,873

Throughput Volumes - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars (10^3m^3)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service - Sector							
37	Residential	EGI	8,669,670	7,928,784	7,681,525	8,383,291	8,136,829	8,179,258
38	Commercial	EGI	7,553,939	6,685,696	5,815,079	6,498,338	6,472,519	6,448,091
39	Industrial	EGI	537,431	463,988	943,240	1,045,372	1,011,337	1,060,859
40	Total		16,761,040	15,078,468	14,439,844	15,927,002	15,620,686	15,688,208
	Contract - Sector							
41	Automotive	EGI	186,181	186,802	179,967	189,115	200,474	214,930
42	Buildings	EGI	526,141	542,150	591,355	640,572	643,146	642,128
43	Chemical	EGI	1,644,708	1,608,227	1,689,380	1,695,446	2,015,061	2,013,902
44	Food & Beverage	EGI	751,934	762,623	779,697	766,720	776,224	774,166
45	Greenhouse - Agricultural	EGI	586,862	632,603	689,721	725,449	756,500	816,729
46	Manufacturing	EGI	733,716	706,036	758,462	720,196	752,042	749,817
47	Mining	EGI	347,841	334,362	313,157	339,823	343,877	406,498
48	Other	EGI	649,352	628,324	624,800	578,305	470,953	421,610
49	Power	EGI	1,552,060	1,564,142	1,975,099	1,928,645	2,298,498	2,427,690
50	Pulp & Paper	EGI	526,282	552,620	560,152	609,426	623,810	623,250
51	Refining	EGI	1,383,051	1,467,050	1,457,273	1,435,427	1,450,521	1,454,573
52	Steel	EGI	1,526,373	1,414,744	1,733,896	1,561,491	1,695,668	1,689,373
53	Total		10,414,502	10,399,684	11,352,959	11,190,617	12,026,774	12,234,665
54	Total Volume		27,175,542	25,478,152	25,792,803	27,117,619	27,647,460	27,922,873

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2019 Actual & 2020 Actual

Line No.	Particulars (10^3m^3)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	5,213,290	145,299	5,358,589	4,789,664	104,740	4,894,404	(464,185)
2	Rate 6	3,233,688	2,066,334	5,300,022	2,810,280	1,840,046	4,650,326	(649,696)
3	Rate 9	0	0	0	127	0	127	127
4	Total - EGD Rate Zone	8,446,978	2,211,633	10,658,611	7,600,071	1,944,786	9,544,857	(1,113,754)
5	Rate M1	3,079,559	221,840	3,301,399	2,815,940	187,938	3,003,878	(297,521)
6	Rate M2	663,864	685,068	1,348,932	571,025	633,316	1,204,341	(144,591)
7	Rate 01	991,238	80,169	1,071,407	913,225	69,511	982,736	(88,671)
8	Rate 10	187,742	192,950	380,692	155,265	187,391	342,656	(38,036)
9	Total - Union Rate Zone	4,922,402	1,180,027	6,102,429	4,455,455	1,078,156	5,533,611	(568,818)
10	Total General Service	13,369,380	3,391,660	16,761,040	12,055,526	3,022,942	15,078,468	(1,682,572)
	Contract							
11	Rate 100	12,577	2,800	15,377	9,142	10,969	20,111	4,734
12	Rate 110	68,785	806,611	875,396	71,781	909,360	981,141	105,745
13	Rate 115	741	440,875	441,616	728	377,311	378,039	(63,577)
14	Rate 125	0	591,623	591,623	0	523,436	523,436	(68,187)
15	Rate 135	1,631	61,389	63,020	1,785	63,502	65,287	2,267
16	Rate 145	1,597	28,843	30,440	628	22,768	23,396	(7,044)

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars (10^3m^3)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	18,233	268,125	286,358	4,843	242,587	247,430	(38,928)
18	Rate 200	152,503	44,376	196,879	137,358	52,115	189,473	(7,406)
19	Rate 300	0	349	349	0	262	262	(87)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	256,067	2,244,991	2,501,058	226,265	2,202,310	2,428,575	(72,483)
22	Rate M4	53,246	620,765	674,011	56,325	565,055	621,380	(52,631)
23	Rate M7	25,510	515,833	541,343	28,488	589,884	618,372	77,029
24	Rate M9	28,114	75,875	103,989	16,236	72,529	88,765	(15,224)
25	Rate M10	391	0	391	360	0	360	(31)
26	Rate 20	10,603	512,297	522,900	9,423	769,053	778,476	255,576
27	Rate 100	0	1,020,510	1,020,510	0	996,605	996,605	(23,905)
28	Rate T1	0	437,372	437,372	0	430,312	430,312	(7,060)
29	Rate T2	0	4,136,389	4,136,389	0	4,017,975	4,017,975	(118,414)
30	Rate T3	0	283,374	283,374	0	264,209	264,209	(19,165)
31	Rate M5	5,923	68,042	73,965	2,712	59,105	61,817	(12,148)
32	Rate 25	42,433	76,767	119,200	29,990	62,848	92,838	(26,362)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	166,220	7,747,224	7,913,444	143,534	7,827,575	7,971,109	57,665
35	Total Contract	422,287	9,992,215	10,414,502	369,799	10,029,885	10,399,684	(14,818)
36	Total Volume	13,791,667	13,383,875	27,175,542	12,425,325	13,052,827	25,478,152	(1,697,390)

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars (10^3m^3)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	8,407,565	262,104	8,669,670	7,739,460	189,325	7,928,784	(740,885)
38	Commercial	4,689,401	2,864,538	7,553,939	4,092,027	2,593,669	6,685,696	(868,243)
39	Industrial	272,413	265,018	537,431	224,039	239,949	463,988	(73,443)
40	Total	13,369,380	3,391,660	16,761,040	12,055,526	3,022,942	15,078,468	(1,682,572)
	Contract - Sector							
41	Automotive	0	186,181	186,181	0	186,802	186,802	621
42	Buildings	36,058	490,084	526,141	21,888	520,262	542,150	16,008
43	Chemical	9,030	1,635,678	1,644,708	7,141	1,601,086	1,608,227	(36,481)
44	Food & Beverage	50,965	700,969	751,934	56,874	705,749	762,623	10,689
45	Greenhouse - Agricultural	36,018	550,844	586,862	29,530	603,073	632,603	45,741
46	Manufacturing	49,444	684,273	733,716	46,494	659,543	706,036	(27,680)
47	Mining	4,976	342,865	347,841	4,978	329,384	334,362	(13,479)
48	Other	198,035	451,317	649,352	168,250	460,074	628,324	(21,029)
49	Power	8,392	1,543,668	1,552,060	11,143	1,553,000	1,564,142	12,082
50	Pulp & Paper	9,681	516,600	526,282	8,336	544,285	552,620	26,339
51	Refining	0	1,383,051	1,383,051	1,831	1,465,219	1,467,050	83,999
52	Steel	19,687	1,506,685	1,526,373	13,335	1,401,409	1,414,744	(111,629)
53	Total	422,287	9,992,215	10,414,502	369,799	10,029,885	10,399,684	(14,818)
54	Total Volume	13,791,667	13,383,875	27,175,542	12,425,325	13,052,827	25,478,152	(1,697,390)

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2020 Actual & 2021 Actual

Line No.	Particulars (10^3m^3)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,789,664	104,740	4,894,404	4,665,992	82,730	4,748,722	(145,682)
2	Rate 6	2,810,280	1,840,046	4,650,326	2,740,101	1,698,331	4,438,432	(211,894)
3	Rate 9	127	0	127	3	0	3	(124)
4	Total - EGD Rate Zone	7,600,071	1,944,786	9,544,857	7,406,097	1,781,061	9,187,158	(357,699)
5	Rate M1	2,815,940	187,938	3,003,878	2,728,007	169,080	2,897,087	(106,791)
6	Rate M2	571,025	633,316	1,204,341	526,743	587,121	1,113,864	(90,477)
7	Rate 01	913,225	69,511	982,736	871,182	58,759	929,941	(52,795)
8	Rate 10	155,265	187,391	342,656	148,728	163,067	311,794	(30,862)
9	Total - Union Rate Zone	4,455,455	1,078,156	5,533,611	4,274,660	978,026	5,252,686	(280,925)
10	Total General Service	12,055,526	3,022,942	15,078,468	11,680,756	2,759,087	14,439,844	(638,624)
	Contract							
11	Rate 100	9,142	10,969	20,111	12,899	21,095	33,994	13,883
12	Rate 110	71,781	909,360	981,141	83,260	1,018,629	1,101,890	120,749
13	Rate 115	728	377,311	378,039	1,002	386,695	387,697	9,658
14	Rate 125	0	523,436	523,436	0	707,660	707,660	184,224
15	Rate 135	1,785	63,502	65,287	2,624	60,488	63,112	(2,175)
16	Rate 145	628	22,768	23,396	0	24,785	24,785	1,389

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars (10^3m^3)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	4,843	242,587	247,430	6,302	249,399	255,701	8,271
18	Rate 200	137,358	52,115	189,473	137,779	54,230	192,010	2,537
19	Rate 300	0	262	262	0	269	269	7
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	226,265	2,202,310	2,428,575	243,868	2,523,251	2,767,118	338,543
22	Rate M4	56,325	565,055	621,380	56,304	554,504	610,808	(10,572)
23	Rate M7	28,488	589,884	618,372	31,987	654,366	686,353	67,981
24	Rate M9	16,236	72,529	88,765	15,903	74,193	90,096	1,331
25	Rate M10	360	0	360	320	0	320	(40)
26	Rate 20	9,423	769,053	778,476	8,464	629,136	637,600	(140,876)
27	Rate 100	0	996,605	996,605	0	958,587	958,587	(38,018)
28	Rate T1	0	430,312	430,312	0	453,007	453,007	22,695
29	Rate T2	0	4,017,975	4,017,975	0	4,700,474	4,700,474	682,499
30	Rate T3	0	264,209	264,209	0	241,187	241,187	(23,022)
31	Rate M5	2,712	59,105	61,817	4,043	59,468	63,511	1,694
32	Rate 25	29,990	62,848	92,838	79,188	64,709	143,898	51,060
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	143,534	7,827,575	7,971,109	196,209	8,389,631	8,585,841	614,732
35	Total Contract	369,799	10,029,885	10,399,684	440,077	10,912,882	11,352,959	953,275
36	Total Volume	12,425,325	13,052,827	25,478,152	12,120,833	13,671,970	25,792,803	314,651

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars (10^3m^3)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	7,739,460	189,325	7,928,784	7,530,753	150,772	7,681,525	(247,260)
38	Commercial	4,092,027	2,593,669	6,685,696	3,674,411	2,140,669	5,815,079	(870,616)
39	Industrial	224,039	239,949	463,988	475,593	467,646	943,240	479,252
40	Total	12,055,526	3,022,942	15,078,468	11,680,756	2,759,087	14,439,844	(638,624)
	Contract - Sector							
41	Automotive	0	186,802	186,802	0	179,967	179,967	(6,835)
42	Buildings	21,888	520,262	542,150	23,486	567,870	591,355	49,206
43	Chemical	7,141	1,601,086	1,608,227	8,059	1,681,321	1,689,380	81,153
44	Food & Beverage	56,874	705,749	762,623	62,641	717,056	779,697	17,073
45	Greenhouse - Agricultural	29,530	603,073	632,603	29,098	660,623	689,721	57,118
46	Manufacturing	46,494	659,543	706,036	47,988	710,473	758,462	52,426
47	Mining	4,978	329,384	334,362	5,617	307,540	313,157	(21,205)
48	Other	168,250	460,074	628,324	173,440	451,360	624,800	(3,524)
49	Power	11,143	1,553,000	1,564,142	19,813	1,955,286	1,975,099	410,956
50	Pulp & Paper	8,336	544,285	552,620	18,438	541,714	560,152	7,532
51	Refining	1,831	1,465,219	1,467,050	764	1,456,509	1,457,273	(9,777)
52	Steel	13,335	1,401,409	1,414,744	50,732	1,683,164	1,733,896	319,152
53	Total	369,799	10,029,885	10,399,684	440,077	10,912,882	11,352,959	953,275
54	Total Volume	12,425,325	13,052,827	25,478,152	12,120,833	13,671,970	25,792,803	314,651

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2021 Actual & 2022 Estimate

Line No.	Particulars (10^3m^3)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,665,992	82,730	4,748,722	5,068,395	143,253	5,211,648	462,926
2	Rate 6	2,740,101	1,698,331	4,438,432	3,064,722	1,845,964	4,910,686	472,254
3	Rate 9	3	0	3	0	0	0	(3)
4	Total - EGD Rate Zone	7,406,097	1,781,061	9,187,158	8,133,118	1,989,217	10,122,335	935,177
5	Rate M1	2,728,007	169,080	2,897,087	2,958,396	187,270	3,145,665	248,578
6	Rate M2	526,743	587,121	1,113,864	622,017	670,484	1,292,501	178,637
7	Rate 01	871,182	58,759	929,941	955,202	69,706	1,024,908	94,967
8	Rate 10	148,728	163,067	311,794	160,869	180,724	341,593	29,799
9	Total - Union Rate Zone	4,274,660	978,026	5,252,686	4,696,484	1,108,184	5,804,667	551,981
10	Total General Service	11,680,756	2,759,087	14,439,844	12,829,601	3,097,400	15,927,002	1,487,158
	Contract							
11	Rate 100	12,899	21,095	33,994	13,072	13,893	26,965	(7,029)
12	Rate 110	83,260	1,018,629	1,101,890	76,260	1,034,792	1,111,051	9,162
13	Rate 115	1,002	386,695	387,697	998	366,384	367,381	(20,316)
14	Rate 125	0	707,660	707,660	0	690,079	690,079	(17,581)
15	Rate 135	2,624	60,488	63,112	2,691	53,080	55,771	(7,342)
16	Rate 145	0	24,785	24,785	420	18,653	19,073	(5,712)

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars (10^3m^3)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	6,302	249,399	255,701	6,210	271,119	277,330	21,629
18	Rate 200	137,779	54,230	192,010	157,776	43,271	201,047	9,037
19	Rate 300	0	269	269	0	139	139	(130)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	243,868	2,523,251	2,767,118	257,426	2,491,409	2,748,835	(18,283)
22	Rate M4	56,304	554,504	610,808	61,477	534,989	596,466	(14,342)
23	Rate M7	31,987	654,366	686,353	37,266	681,488	718,754	32,401
24	Rate M9	15,903	74,193	90,096	17,523	72,024	89,547	(549)
25	Rate M10	320	0	320	341	0	341	22
26	Rate 20	8,464	629,136	637,600	8,642	802,927	811,568	173,969
27	Rate 100	0	958,587	958,587	0	1,006,653	1,006,653	48,065
28	Rate T1	0	453,007	453,007	0	423,268	423,268	(29,739)
29	Rate T2	0	4,700,474	4,700,474	0	4,359,326	4,359,326	(341,148)
30	Rate T3	0	241,187	241,187	0	277,095	277,095	35,908
31	Rate M5	4,043	59,468	63,511	4,853	56,812	61,664	(1,847)
32	Rate 25	79,188	64,709	143,898	13,853	83,246	97,099	(46,799)
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	196,209	8,389,631	8,585,841	143,954	8,297,828	8,441,782	(144,059)
35	Total Contract	440,077	10,912,882	11,352,959	401,381	10,789,237	11,190,617	(162,342)
36	Total Volume	12,120,833	13,671,970	25,792,803	13,230,982	13,886,637	27,117,619	1,324,816

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars (10^3m^3)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	7,530,753	150,772	7,681,525	8,196,366	186,925	8,383,291	701,766
38	Commercial	3,674,411	2,140,669	5,815,079	4,106,146	2,392,193	6,498,338	683,259
39	Industrial	475,593	467,646	943,240	527,090	518,283	1,045,372	102,133
40	Total	11,680,756	2,759,087	14,439,844	12,829,601	3,097,400	15,927,002	1,487,158
	Contract - Sector							
41	Automotive	0	179,967	179,967	0	189,115	189,115	9,148
42	Buildings	23,486	567,870	591,355	25,984	614,588	640,572	49,216
43	Chemical	8,059	1,681,321	1,689,380	6,877	1,688,570	1,695,446	6,067
44	Food & Beverage	62,641	717,056	779,697	61,519	705,200	766,720	(12,977)
45	Greenhouse - Agricultural	29,098	660,623	689,721	38,210	687,240	725,449	35,729
46	Manufacturing	47,988	710,473	758,462	43,931	676,266	720,196	(38,265)
47	Mining	5,617	307,540	313,157	3,933	335,890	339,823	26,666
48	Other	173,440	451,360	624,800	192,835	385,471	578,305	(46,495)
49	Power	19,813	1,955,286	1,975,099	15,922	1,912,723	1,928,645	(46,454)
50	Pulp & Paper	18,438	541,714	560,152	1,167	608,259	609,426	49,274
51	Refining	764	1,456,509	1,457,273	2,734	1,432,694	1,435,427	(21,846)
52	Steel	50,732	1,683,164	1,733,896	8,270	1,553,222	1,561,491	(172,405)
53	Total	440,077	10,912,882	11,352,959	401,381	10,789,237	11,190,617	(162,342)
54	Total Volume	12,120,833	13,671,970	25,792,803	13,230,982	13,886,637	27,117,619	1,324,816

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars (10^3m^3)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	5,068,395	143,253	5,211,648	4,949,972	95,496	5,045,468	(166,180)
2	Rate 6	3,064,722	1,845,964	4,910,686	3,026,407	1,860,706	4,887,113	(23,573)
3	Rate 9	0	0	0	0	0	0	0
4	Total - EGD Rate Zone	8,133,118	1,989,217	10,122,335	7,976,379	1,956,202	9,932,581	(189,753)
5	Rate M1	2,958,396	187,270	3,145,665	2,882,812	180,358	3,063,170	(82,495)
6	Rate M2	622,017	670,484	1,292,501	624,631	628,533	1,253,164	(39,337)
7	Rate 01	955,202	69,706	1,024,908	952,937	60,000	1,012,937	(11,971)
8	Rate 10	160,869	180,724	341,593	189,976	168,858	358,834	17,240
9	Total - Union Rate Zone	4,696,484	1,108,184	5,804,667	4,650,356	1,037,749	5,688,104	(116,563)
10	Total General Service	12,829,601	3,097,400	15,927,002	12,626,735	2,993,951	15,620,686	(306,316)
	Contract							
11	Rate 100	13,072	13,893	26,965	15,118	12,972	28,090	1,126
12	Rate 110	76,260	1,034,792	1,111,051	102,758	971,614	1,074,372	(36,680)
13	Rate 115	998	366,384	367,381	1,669	384,370	386,039	18,658
14	Rate 125	0	690,079	690,079	0	824,971	824,971	134,892
15	Rate 135	2,691	53,080	55,771	4,818	50,668	55,486	(285)
16	Rate 145	420	18,653	19,073	556	14,775	15,331	(3,742)

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars (10^3m^3)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	6,210	271,119	277,330	5,361	317,065	322,426	45,096
18	Rate 200	157,776	43,271	201,047	138,497	48,105	186,602	(14,445)
19	Rate 300	0	139	139	0	0	0	(139)
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	257,426	2,491,409	2,748,835	268,775	2,624,540	2,893,316	144,480
22	Rate M4	61,477	534,989	596,466	59,807	538,356	598,163	1,696
23	Rate M7	37,266	681,488	718,754	35,619	713,923	749,542	30,788
24	Rate M9	17,523	72,024	89,547	15,795	74,278	90,073	527
25	Rate M10	341	0	341	329	0	329	(12)
26	Rate 20	8,642	802,927	811,568	13,923	825,828	839,751	28,183
27	Rate 100	0	1,006,653	1,006,653	0	1,036,696	1,036,696	30,043
28	Rate T1	0	423,268	423,268	0	434,564	434,564	11,296
29	Rate T2	0	4,359,326	4,359,326	0	4,962,964	4,962,964	603,638
30	Rate T3	0	277,095	277,095	0	249,200	249,200	(27,895)
31	Rate M5	4,853	56,812	61,664	2,187	58,615	60,802	(863)
32	Rate 25	13,853	83,246	97,099	7,112	104,263	111,374	14,276
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	143,954	8,297,828	8,441,782	134,772	8,998,687	9,133,458	691,676
35	Total Contract	401,381	10,789,237	11,190,617	403,547	11,623,227	12,026,774	836,157
36	Total Volume	13,230,982	13,886,637	27,117,619	13,030,282	14,617,178	27,647,460	529,841

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars (10^3m^3)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	8,196,366	186,925	8,383,291	7,974,439	162,390	8,136,829	(246,461)
38	Commercial	4,106,146	2,392,193	6,498,338	4,112,244	2,360,275	6,472,519	(25,819)
39	Industrial	527,090	518,283	1,045,372	540,052	471,285	1,011,337	(34,035)
40	Total	12,829,601	3,097,400	15,927,002	12,626,735	2,993,951	15,620,686	(306,316)
	Contract - Sector							
41	Automotive	0	189,115	189,115	0	200,474	200,474	11,359
42	Buildings	25,984	614,588	640,572	26,660	616,485	643,146	2,574
43	Chemical	6,877	1,688,570	1,695,446	6,637	2,008,424	2,015,061	319,615
44	Food & Beverage	61,519	705,200	766,720	63,355	712,870	776,224	9,505
45	Greenhouse - Agricultural	38,210	687,240	725,449	36,405	720,095	756,500	31,050
46	Manufacturing	43,931	676,266	720,196	54,262	697,780	752,042	31,845
47	Mining	3,933	335,890	339,823	2,893	340,984	343,877	4,054
48	Other	192,835	385,471	578,305	171,096	299,857	470,953	(107,352)
49	Power	15,922	1,912,723	1,928,645	16,273	2,282,225	2,298,498	369,854
50	Pulp & Paper	1,167	608,259	609,426	18,968	604,842	623,810	14,384
51	Refining	2,734	1,432,694	1,435,427	0	1,450,521	1,450,521	15,094
52	Steel	8,270	1,553,222	1,561,491	6,997	1,688,671	1,695,668	134,176
53	Total	401,381	10,789,237	11,190,617	403,547	11,623,227	12,026,774	836,157
54	Total Volume	13,230,982	13,886,637	27,117,619	13,030,282	14,617,178	27,647,460	529,841

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars (10^3m^3)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	4,949,972	95,496	5,045,468	4,915,774	85,253	5,001,027	(44,441)
2	Rate 6	3,026,407	1,860,706	4,887,113	2,970,864	1,824,830	4,795,694	(91,419)
3	Rate 9	0	0	0	0	0	0	0
4	Total - EGD Rate Zone	7,976,379	1,956,202	9,932,581	7,886,638	1,910,083	9,796,721	(135,860)
5	Rate M1	2,882,812	180,358	3,063,170	3,073,284	181,848	3,255,132	191,962
6	Rate M2	624,631	628,533	1,253,164	688,379	630,997	1,319,376	66,212
7	Rate 01	952,937	60,000	1,012,937	931,213	57,792	989,005	(23,932)
8	Rate 10	189,976	168,858	358,834	164,590	163,384	327,974	(30,860)
9	Total - Union Rate Zone	4,650,356	1,037,749	5,688,104	4,857,466	1,034,021	5,891,487	203,383
10	Total General Service	12,626,735	2,993,951	15,620,686	12,744,104	2,944,104	15,688,208	67,522
	Contract							
11	Rate 100	15,118	12,972	28,090	14,756	12,673	27,429	(661)
12	Rate 110	102,758	971,614	1,074,372	102,197	966,084	1,068,281	(6,091)
13	Rate 115	1,669	384,370	386,039	1,651	380,222	381,873	(4,166)
14	Rate 125	0	824,971	824,971	0	824,971	824,971	0
15	Rate 135	4,818	50,668	55,486	4,392	48,254	52,646	(2,840)
16	Rate 145	556	14,775	15,331	574	15,140	15,714	383

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars (10^3m^3)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	5,361	317,065	322,426	5,360	317,894	323,254	828
18	Rate 200	138,497	48,105	186,602	140,305	48,547	188,852	2,250
19	Rate 300	0	0	0	0	0	0	0
20	Rate 315	0	0	0	0	0	0	0
21	Total - EGD Rate Zone	268,775	2,624,540	2,893,316	269,235	2,613,785	2,883,020	(10,296)
22	Rate M4	59,807	538,356	598,163	59,362	534,538	593,900	(4,263)
23	Rate M7	35,619	713,923	749,542	35,619	754,118	789,737	40,195
24	Rate M9	15,795	74,278	90,073	15,795	74,278	90,073	0
25	Rate M10	329	0	329	0	0	0	(329)
26	Rate 20	13,923	825,828	839,751	15,631	913,470	929,101	89,350
27	Rate 100	0	1,036,696	1,036,696	0	1,076,378	1,076,378	39,682
28	Rate T1	0	434,564	434,564	0	431,289	431,289	(3,275)
29	Rate T2	0	4,962,964	4,962,964	0	5,005,643	5,005,643	42,679
30	Rate T3	0	249,200	249,200	0	249,200	249,200	0
31	Rate M5	2,187	58,615	60,802	2,164	57,329	59,493	(1,309)
32	Rate 25	7,112	104,263	111,374	5,703	121,128	126,831	15,457
33	Rate 30	0	0	0	0	0	0	0
34	Total - Union Rate Zone	134,772	8,998,687	9,133,458	134,274	9,217,371	9,351,645	218,187
35	Total Contract	403,547	11,623,227	12,026,774	403,509	11,831,156	12,234,665	207,891
36	Total Volume	13,030,282	14,617,178	27,647,460	13,147,613	14,775,260	27,922,873	275,413

Comparison of Unnormalized Throughput Volume - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars (10^3m^3)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service - Sector							
37	Residential	7,974,439	162,390	8,136,829	8,027,334	151,924	8,179,258	42,428
38	Commercial	4,112,244	2,360,275	6,472,519	4,139,018	2,309,073	6,448,091	(24,428)
39	Industrial	540,052	471,285	1,011,337	577,752	483,107	1,060,859	49,522
40	Total	12,626,735	2,993,951	15,620,686	12,744,104	2,944,104	15,688,208	67,522
	Contract - Sector							
41	Automotive	0	200,474	200,474	0	214,930	214,930	14,455
42	Buildings	26,660	616,485	643,146	26,624	615,504	642,128	(1,017)
43	Chemical	6,637	2,008,424	2,015,061	6,579	2,007,323	2,013,902	(1,160)
44	Food & Beverage	63,355	712,870	776,224	63,218	710,948	774,166	(2,059)
45	Greenhouse - Agricultural	36,405	720,095	756,500	36,304	780,425	816,729	60,229
46	Manufacturing	54,262	697,780	752,042	54,091	695,726	749,817	(2,225)
47	Mining	2,893	340,984	343,877	4,606	401,892	406,498	62,621
48	Other	171,096	299,857	470,953	171,133	250,477	421,610	(49,343)
49	Power	16,273	2,282,225	2,298,498	16,273	2,411,416	2,427,690	129,191
50	Pulp & Paper	18,968	604,842	623,810	18,956	604,294	623,250	(559)
51	Refining	0	1,450,521	1,450,521	0	1,454,573	1,454,573	4,052
52	Steel	6,997	1,688,671	1,695,668	5,724	1,683,649	1,689,373	(6,294)
53	Total	403,547	11,623,227	12,026,774	403,509	11,831,156	12,234,665	207,891
54	Total Volume	13,030,282	14,617,178	27,647,460	13,147,613	14,775,260	27,922,873	275,413

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	General Service								
1	Rate 1 (1)	EGD	1,410.5	1,573.4	1,729.9	1,760.5	1,541.3	1,811.1	1,932.8
2	Rate 6	EGD	822.5	889.3	1,045.8	1,042.6	876.6	1,084.6	1,151.8
3	Rate 9	EGD	0.5	0.2	0.2	0.1	0.1	0.0	0.0
4	Total - EGD Rate Zone		2,233.5	2,462.9	2,775.9	2,803.2	2,418.0	2,895.7	3,084.6
5	Rate M1	Union	777.6	834.6	936.0	866.6	762.3	835.3	842.8
6	Rate M2	Union	116.5	162.0	179.3	157.5	140.2	159.0	158.8
7	Rate 01	Union	337.2	372.9	393.2	382.0	346.4	387.3	394.7
8	Rate 10	Union	70.1	77.2	77.8	74.2	67.7	74.2	72.4
9	Total - Union Rate Zone		1,301.4	1,446.7	1,586.3	1,480.3	1,316.6	1,455.8	1,468.7
10	Total General Service		3,534.9	3,909.6	4,362.2	4,283.5	3,734.6	4,351.5	4,553.3
	Contract								
11	Rate 100	EGD	0.0	0.6	0.9	0.9	0.5	0.6	0.6
12	Rate 110	EGD	24.9	32.6	33.4	38.1	44.6	59.9	51.9
13	Rate 115	EGD	7.4	7.7	7.3	9.6	7.9	14.5	12.7
14	Rate 125	EGD	10.9	11.2	11.0	9.9	11.0	11.1	11.1
15	Rate 135	EGD	1.7	2.5	3.1	4.0	3.5	6.0	3.2
16	Rate 145	EGD	7.5	8.7	8.2	5.3	3.4	4.6	4.0
17	Rate 170	EGD	7.5	14.4	15.8	16.3	12.7	14.5	11.3
18	Rate 200	EGD	23.7	29.8	31.2	33.9	28.3	29.8	30.2
19	Rate 300	EGD	0.2	0.2	0.1	0.1	0.1	0.1	0.1
20	Rate 315	EGD	0.0	0.4	0.4	0.5	0.4	0.2	0.0
21	Total - EGD Rate Zone		83.8	108.1	111.4	118.6	112.4	141.3	125.1

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
22	Rate M4	Union	15.2	19.5	21.7	20.0	22.7	28.5	35.6
23	Rate M7	Union	4.1	6.3	16.0	15.8	14.0	15.6	17.0
24	Rate M9	Union	0.7	0.7	0.8	0.8	1.8	4.8	5.0
25	Rate M10	Union	0.0	0.1	0.1	0.1	0.1	0.1	0.1
26	Rate 20	Union	25.3	22.3	21.4	25.2	25.2	22.4	27.5
27	Rate 100	Union	15.6	15.8	15.8	12.5	12.9	10.9	10.4
28	Rate T1	Union	10.6	10.0	10.2	10.1	10.6	11.3	12.8
29	Rate T2	Union	42.2	46.6	49.3	51.1	57.5	59.5	69.0
30	Rate T3	Union	4.4	4.5	4.7	4.8	5.1	6.7	6.9
31	Rate M5	Union	15.7	17.4	10.0	7.5	7.8	6.4	3.6
32	Rate 25	Union	13.4	24.0	24.4	21.3	11.0	9.9	15.1
33	Rate 30	Union	0.0	0.1	0.1	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone		147.4	167.2	174.5	169.1	168.7	176.1	203.0
35	Total Contract		231.2	275.3	285.9	287.7	281.1	317.4	328.1
36	Subtotal		3,766.1	4,184.9	4,648.1	4,571.2	4,015.7	4,668.9	4,881.4

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Accounting Adjustments								
37	US GAAP adjustment elimination for deferral & variance clearance recognition	EGD	0.0	(107.3)	(197.5)	(444.2)	(139.5)	(5.7)	(43.7)
38	Removal of Cap and Trade Revenues	EGD	0.0	0.0	0.0	0.0	0.0	(353.3)	(224.1)
39	Eliminate earnings sharing in the financial statements	EGD	0.0	0.0	0.0	0.0	0.0	0.0	27.2
40	Elimination of 2013 OHCVA write-off as per the EB 2014-0195 Decision	EGD	0.0	0.0	0.4	0.0	0.0	0.0	0.0
41	Calendarization Impact	EGD	0.0	(13.7)	169.3	412.6	191.4	91.1	(121.8)
42	Average Use/ Normalized Average Consumption	Union	0.0	(11.5)	(2.6)	10.2	23.3	(2.9)	(20.3)
43	Parkway Obligation Rate Variance	Union	0.0	0.0	3.6	(0.0)	2.9	(0.2)	0.0
44	Capital Pass-through	Union	0.0	0.0	0.0	0.6	2.5	0.2	(0.4)
45	LRAM	Union	0.0	2.8	0.8	(0.9)	0.5	0.6	0.4
46	Cap and Trade Revenue	Union	0.0	0.0	0.0	0.0	0.0	227.3	144.2
47	Federal Carbon Program	Union	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	Parkway West Capital Pass Through	Union	0.0	0.0	(1.1)	0.0	0.0	0.0	0.0
49	Community Expansion	Union	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50	Bill C-97 (Accelerated CCA) Ratepayer Revenue Adjustment (1)	Union	0.0	0.0	0.0	0.0	0.0	0.0	(1.3)
51	Bill C-97 (Accelerated CCA) 50% Shareholder Revenue Adjustment	Union	0.0	0.0	0.0	0.0	0.0	0.0	(0.9)
52	Tax Variance (HST) 50% Shareholder Revenue Adjustment	Union	0.0	0.0	0.0	0.0	0.0	0.0	(0.4)
53	Total		0.0	(129.6)	(27.1)	(21.7)	81.1	(42.9)	(241.0)

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
54	Total Utility Revenue		3,766.1	4,055.3	4,621.0	4,549.5	4,096.8	4,626.1	4,640.4

Note:

(1) Includes revenue reduction related to 50% ratepayer portion of Bill C-97 in the Tax Variance Account and 100% of Bill C-97 CPT impact.

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	General Service							
1	Rate 1	EGI	1,824.8	1,646.6	1,768.3	1,972.9	2,212.3	2,206.4
2	Rate 6	EGI	1,009.2	850.9	920.1	1,056.4	1,206.6	1,190.7
3	Rate 9	EGI	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone		2,834.0	2,497.6	2,688.3	3,029.3	3,418.9	3,397.1
5	Rate M1	EGI	884.9	792.4	871.4	955.9	1,130.0	1,242.2
6	Rate M2	EGI	166.5	134.8	144.2	174.9	218.6	248.3
7	Rate 01	EGI	401.6	354.8	377.1	415.8	481.5	484.2
8	Rate 10	EGI	72.5	58.9	60.9	69.6	89.8	82.4
9	Total - Union Rate Zone		1,525.5	1,341.0	1,453.5	1,616.1	1,919.9	2,057.1
10	Total General Service		4,359.5	3,838.5	4,141.9	4,645.4	5,338.8	5,454.2
	Contract							
11	Rate 100	EGI	3.1	3.0	4.7	4.2	5.7	5.6
12	Rate 110	EGI	42.2	45.9	57.0	55.8	68.3	68.1
13	Rate 115	EGI	9.1	7.8	8.3	8.9	9.6	9.5
14	Rate 125	EGI	11.3	11.4	11.9	12.0	12.5	12.5
15	Rate 135	EGI	2.2	2.0	2.2	2.0	2.5	2.3
16	Rate 145	EGI	1.8	1.6	1.9	1.9	1.8	1.8
17	Rate 170	EGI	7.8	1.4	2.3	2.8	2.3	2.3
18	Rate 200	EGI	30.3	25.5	30.2	36.1	38.1	38.6
19	Rate 300	EGI	0.1	0.1	0.1	0.0	0.0	0.0
20	Rate 315	EGI	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone		107.8	98.7	118.6	123.6	140.7	140.6

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
22	Rate M4	EGI	37.8	38.0	40.8	42.6	47.8	49.6
23	Rate M7	EGI	18.6	21.8	27.9	31.4	36.1	37.8
24	Rate M9	EGI	5.4	3.4	4.0	4.5	5.2	5.4
25	Rate M10	EGI	0.1	0.1	0.1	0.1	0.1	0.0
26	Rate 20	EGI	30.9	33.1	33.5	34.5	39.6	40.7
27	Rate 100	EGI	10.7	11.3	11.5	11.8	11.4	11.8
28	Rate T1	EGI	12.7	13.6	13.9	14.0	14.4	14.4
29	Rate T2	EGI	71.6	74.1	76.1	78.7	79.3	79.8
30	Rate T3	EGI	6.9	7.2	7.2	7.5	7.8	7.8
31	Rate M5	EGI	3.5	2.5	3.1	3.3	3.2	3.3
32	Rate 25	EGI	11.0	7.8	18.8	6.6	6.0	6.2
33	Rate 30	EGI	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone		208.9	212.9	236.8	234.9	250.9	256.8
35	Total Contract		316.7	311.6	355.4	358.5	391.5	397.4
36	Subtotal		4,676.2	4,150.1	4,497.3	5,004.0	5,730.3	5,851.6

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
	Accounting Adjustments							
37	Tax Variance	EGI	(24.1)	(13.4)	(18.0)	(34.1)	(27.5)	0.0
38	Elimination of Prior Year Tax Variance	EGI	4.5	0.0	0.0	0.0	0.0	0.0
39	Accounting Policy Change	EGI	1.1	(14.0)	(16.2)	(15.5)	(33.4)	0.0
40	Average Use/ Normalized Average Consumption	EGD (1)	(8.6)	(4.6)	15.4	4.1	0.0	0.0
41	Dawn Access Cost	EGD	2.2	2.1	2.0	1.2	0.0	0.0
42	Incremental Capital Module	EGD	0.0	(0.3)	0.2	(9.4)	6.9	0.0
43	Prior Year Earnings Sharing Adjustment	EGD	(1.7)	0.0	0.0	0.0	0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD	1.7	0.0	0.0	0.0	0.0	0.0
45	Transactional Services Revenue	EGD	12.0	12.0	12.0	12.0	12.0	0.0
46	LRAM	EGD	0.0	0.0	0.0	0.0	0.0	0.0
47	Federal Carbon Program	EGD	0.1	0.6	0.7	0.0	0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD	0.2	0.2	0.1	0.0	0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD	(3.9)	(3.9)	0.0	0.0	0.0	0.0
50	Elimination of 2019 Gas Supply Plan Cost Consequences Reversal	EGD	0.0	3.9	0.0	0.0	0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)	(4.7)	7.2	19.0	9.4	(6.1)	0.0
52	Parkway Obligation Rate Variance	Union	0.3	0.0	0.0	0.0	0.0	0.0
53	Incremental Capital Module	Union	(7.0)	(5.6)	(14.0)	(4.4)	1.2	0.0
54	Capital Pass-through	Union	(1.0)	(1.1)	(4.4)	(3.6)	(2.9)	0.0
55	LRAM	Union	0.4	1.4	0.7	0.4	0.4	0.0
56	Federal Carbon Program	Union	0.4	1.2	1.5	0.0	0.0	0.0

Revenue - Unnormalized - General Service Sales & T-Service, Contract Sales & T-Service (Continued)

Line No	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	Union	(17.4)	(17.7)	(17.2)	(16.7)	(16.4)	0.0
58	Miscellaneous	EGI	0.5	0.7	1.4	0.0	0.0	0.0
59	Total		(44.8)	(31.3)	(16.7)	(56.7)	(65.8)	0.0
60	Total Utility Revenue		4,631.5	4,118.8	4,480.6	4,947.2	5,664.5	5,851.6

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,785.7	39.1	1,824.8	1,618.2	28.4	1,646.6	(178.2)
2	Rate 6	818.3	190.9	1,009.2	663.4	187.5	850.9	(158.3)
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,603.9	230.1	2,834.0	2,281.6	215.9	2,497.6	(336.5)
5	Rate M1	861.8	23.0	884.9	772.5	19.9	792.4	(92.4)
6	Rate M2	127.7	38.8	166.5	99.3	35.6	134.8	(31.7)
7	Rate 01	384.1	17.5	401.6	340.3	14.5	354.8	(46.8)
8	Rate 10	48.8	23.7	72.5	37.1	21.9	58.9	(13.6)
9	Total - Union Rate Zone	1,422.4	103.1	1,525.5	1,249.1	91.9	1,341.0	(184.5)
10	Total General Service	4,026.4	333.1	4,359.5	3,530.7	307.8	3,838.5	(521.0)
	Contract							
11	Rate 100	2.7	0.4	3.1	1.8	1.2	3.0	(0.1)
12	Rate 110	5.1	37.0	42.2	9.6	36.4	45.9	3.7
13	Rate 115	0.1	9.0	9.1	0.2	7.6	7.8	(1.3)
14	Rate 125	0.0	11.3	11.3	0.0	11.4	11.4	0.1
15	Rate 135	0.3	1.9	2.2	0.4	1.6	2.0	(0.2)
16	Rate 145	0.1	1.7	1.8	0.3	1.3	1.6	(0.2)

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	2.2	5.5	7.8	0.6	0.7	1.4	(6.4)
18	Rate 200	28.1	2.1	30.3	23.1	2.4	25.5	(4.8)
19	Rate 300	0.0	0.1	0.1	0.0	0.1	0.1	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	38.7	69.1	107.8	36.0	62.7	98.7	(9.1)
22	Rate M4	9.9	27.9	37.8	9.9	28.1	38.0	0.2
23	Rate M7	4.5	14.1	18.6	4.7	17.1	21.8	3.2
24	Rate M9	4.4	1.0	5.4	2.5	0.9	3.4	(2.0)
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	3.4	27.5	30.9	3.1	30.0	33.1	2.2
27	Rate 100	0.0	10.7	10.7	0.0	11.3	11.3	0.6
28	Rate T1	0.0	12.7	12.7	0.0	13.6	13.6	0.9
29	Rate T2	0.0	71.6	71.6	0.0	74.1	74.1	2.5
30	Rate T3	0.0	6.9	6.9	0.0	7.2	7.2	0.3
31	Rate M5	1.1	2.4	3.5	0.4	2.1	2.5	(1.0)
32	Rate 25	8.3	2.7	11.0	5.0	2.8	7.8	(3.2)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	31.7	177.3	208.9	25.7	187.2	212.9	4.0
35	Total Contract	70.4	246.4	316.7	61.7	249.9	311.6	(5.1)
36	Subtotal	4,096.7	579.5	4,676.2	3,592.4	557.7	4,150.1	(526.1)

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(24.1)			(13.4)	10.7
38	Elimination of Prior Year Tax Variance	EGI		4.5			0.0	(4.5)
39	Accounting Policy Change	EGI		1.1			(14.0)	(15.1)
40	Average Use/ Normalized Average Consumption	EGD (1)		(8.6)			(4.6)	4.0
41	Dawn Access Cost	EGD		2.2			2.1	(0.1)
42	Incremental Capital Module	EGD		0.0			(0.3)	(0.3)
43	Prior Year Earnings Sharing Adjustment	EGD		(1.7)			0.0	1.7
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		1.7			0.0	(1.7)
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	(0.0)
47	Federal Carbon Program	EGD		0.1			0.6	0.5
48	Greenhouse Gas Emissions Administration	EGD		0.2			0.2	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		(3.9)			(3.9)	(0.0)

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2019 Actual & 2020 Actual (Continued)

Line No.	Particulars ($ millions)	2019 Actual			2020 Actual			2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			3.9	3.9
51	Average Use/ Normalized Average Consumption	Union (2)		(4.7)			7.2	11.9
52	Parkway Obligation Rate Variance	Union		0.3			0.0	(0.3)
53	Incremental Capital Module	Union		(7.0)			(5.6)	1.4
54	Capital Pass-through	Union		(1.0)			(1.1)	(0.1)
55	LRAM	Union		0.4			1.4	1.0
56	Federal Carbon Program	Union		0.4			1.2	0.8
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(17.4)			(17.7)	(0.3)
58	Miscellaneous	EGI		0.5			0.7	0.2
59	Total			(44.8)			(31.3)	13.5
60	Total Utility Revenue			4,631.5			4,118.8	(512.7)

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,618.2	28.4	1,646.6	1,749.7	18.5	1,768.3	121.6
2	Rate 6	663.4	187.5	850.9	775.8	144.3	920.1	69.2
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,281.6	215.9	2,497.6	2,525.6	162.8	2,688.3	190.8
5	Rate M1	772.5	19.9	792.4	853.1	18.3	871.4	78.9
6	Rate M2	99.3	35.6	134.8	109.2	35.0	144.2	9.4
7	Rate 01	340.3	14.5	354.8	364.3	12.8	377.1	22.3
8	Rate 10	37.1	21.9	58.9	40.9	20.0	60.9	2.0
9	Total - Union Rate Zone	1,249.1	91.9	1,341.0	1,367.5	86.1	1,453.5	112.6
10	Total General Service	3,530.7	307.8	3,838.5	3,893.0	248.9	4,141.9	303.4
	Contract							
11	Rate 100	1.8	1.2	3.0	2.9	1.8	4.7	1.7
12	Rate 110	9.6	36.4	45.9	16.6	40.4	57.0	11.1
13	Rate 115	0.2	7.6	7.8	0.2	8.1	8.3	0.5
14	Rate 125	0.0	11.4	11.4	0.0	11.9	11.9	0.5
15	Rate 135	0.4	1.6	2.0	0.6	1.6	2.2	0.2
16	Rate 145	0.3	1.3	1.6	0.0	1.9	1.9	0.3

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0.6	0.7	1.4	1.1	1.2	2.3	0.9
18	Rate 200	23.1	2.4	25.5	27.8	2.4	30.2	4.7
19	Rate 300	0.0	0.1	0.1	0.0	0.1	0.1	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	36.0	62.7	98.7	49.2	69.4	118.6	19.9
22	Rate M4	9.9	28.1	38.0	12.0	28.8	40.8	2.8
23	Rate M7	4.7	17.1	21.8	6.7	21.2	27.9	6.1
24	Rate M9	2.5	0.9	3.4	3.0	1.0	4.0	0.6
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	3.1	30.0	33.1	2.9	30.6	33.5	0.4
27	Rate 100	0.0	11.3	11.3	0.0	11.5	11.5	0.2
28	Rate T1	0.0	13.6	13.6	0.0	13.9	13.9	0.3
29	Rate T2	0.0	74.1	74.1	0.0	76.1	76.1	1.9
30	Rate T3	0.0	7.2	7.2	0.0	7.2	7.2	0.0
31	Rate M5	0.4	2.1	2.5	0.8	2.3	3.1	0.6
32	Rate 25	5.0	2.8	7.8	15.6	3.1	18.8	11.0
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	25.7	187.2	212.9	41.1	195.7	236.8	23.9
35	Total Contract	61.7	249.9	311.6	90.3	265.1	355.4	43.8
36	Subtotal	3,592.4	557.7	4,150.1	3,983.3	514.0	4,497.3	347.2

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(13.4)			(18.0)	(4.6)
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(14.0)			(16.2)	(2.2)
40	Average Use/ Normalized Average Consumption	EGD (1)		(4.6)			15.4	20.0
41	Dawn Access Cost	EGD		2.1			2.0	(0.1)
42	Incremental Capital Module	EGD		(0.3)			0.2	0.5
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.6			0.7	0.1
48	Greenhouse Gas Emissions Administration	EGD		0.2			0.1	(0.1)
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		(3.9)			0.0	3.9

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2020 Actual & 2021 Actual (Continued)

Line No.	Particulars ($ millions)	2020 Actual			2021 Actual			2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		3.9			0.0	(3.9)
51	Average Use/ Normalized Average Consumption	Union (2)		7.2			19.0	11.8
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(5.6)			(14.0)	(8.4)
54	Capital Pass-through	Union		(1.1)			(4.4)	(3.3)
55	LRAM	Union		1.4			0.7	(0.7)
56	Federal Carbon Program	Union		1.2			1.5	0.3
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(17.7)			(17.2)	0.5
58	Miscellaneous	EGI		0.7			1.4	0.7
59	Total			(31.3)			(16.7)	14.6
60	Total Utility Revenue			4,118.8			4,480.6	361.8

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,749.7	18.5	1,768.3	1,944.1	28.8	1,972.9	204.6
2	Rate 6	775.8	144.3	920.1	898.0	158.4	1,056.4	136.3
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
4	Total - EGD Rate Zone	2,525.6	162.8	2,688.3	2,842.1	187.1	3,029.3	341.0
5	Rate M1	853.1	18.3	871.4	935.8	20.1	955.9	84.6
6	Rate M2	109.2	35.0	144.2	132.9	42.0	174.9	30.7
7	Rate 01	364.3	12.8	377.1	400.1	15.7	415.8	38.7
8	Rate 10	40.9	20.0	60.9	44.1	25.5	69.6	8.7
9	Total - Union Rate Zone	1,367.5	86.1	1,453.5	1,512.8	103.3	1,616.1	162.6
10	Total General Service	3,893.0	248.9	4,141.9	4,355.0	290.5	4,645.4	503.6
	Contract							
11	Rate 100	2.9	1.8	4.7	2.7	1.5	4.2	(0.5)
12	Rate 110	16.6	40.4	57.0	15.3	40.5	55.8	(1.2)
13	Rate 115	0.2	8.1	8.3	0.1	8.8	8.9	0.6
14	Rate 125	0.0	11.9	11.9	0.0	12.0	12.0	0.1
15	Rate 135	0.6	1.6	2.2	0.4	1.6	2.0	(0.2)
16	Rate 145	0.0	1.9	1.9	0.1	1.8	1.9	0.0

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1.1	1.2	2.3	0.1	2.6	2.8	0.5
18	Rate 200	27.8	2.4	30.2	34.3	1.7	36.1	5.9
19	Rate 300	0.0	0.1	0.1	0.0	0.0	0.0	(0.1)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	49.2	69.4	118.6	53.1	70.5	123.6	5.0
22	Rate M4	12.0	28.8	40.8	12.8	29.7	42.6	1.7
23	Rate M7	6.7	21.2	27.9	7.6	23.8	31.4	3.5
24	Rate M9	3.0	1.0	4.0	3.3	1.2	4.5	0.5
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	(0.0)
26	Rate 20	2.9	30.6	33.5	2.7	31.8	34.5	1.0
27	Rate 100	0.0	11.5	11.5	0.0	11.8	11.8	0.3
28	Rate T1	0.0	13.9	13.9	0.0	14.0	14.0	0.1
29	Rate T2	0.0	76.1	76.1	0.0	78.7	78.7	2.6
30	Rate T3	0.0	7.2	7.2	0.0	7.5	7.5	0.3
31	Rate M5	0.8	2.3	3.1	0.9	2.4	3.3	0.2
32	Rate 25	15.6	3.1	18.8	2.5	4.1	6.6	(12.2)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	41.1	195.7	236.8	29.9	205.0	234.9	(1.9)
35	Total Contract	90.3	265.1	355.4	83.0	275.5	358.5	3.1
36	Subtotal	3,983.3	514.0	4,497.3	4,438.0	566.0	5,004.0	506.7

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(18.0)			(34.1)	(16.1)
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(16.2)			(15.5)	0.7
40	Average Use/ Normalized Average Consumption	EGD (1)		15.4			4.1	(11.3)
41	Dawn Access Cost	EGD		2.0			1.2	(0.8)
42	Incremental Capital Module	EGD		0.2			(9.4)	(9.6)
43	Prior Year Earnings Sharing Adjustment	EGD		0.0				0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.7			0.0	(0.7)
48	Greenhouse Gas Emissions Administration	EGD		0.1			0.0	(0.1)
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2021 Actual & 2022 Estimate (Continued)

Line No.	Particulars ($ millions)	2021 Actual			2022 Estimate			2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)		19.0			9.4	(9.7)
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(14.0)			(4.4)	9.5
54	Capital Pass-through	Union		(4.4)			(3.6)	0.8
55	LRAM	Union		0.7			0.4	(0.3)
56	Federal Carbon Program	Union		1.5			0.0	(1.5)
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(17.2)			(16.7)	0.4
58	Miscellaneous	EGI		1.4			0.0	(1.4)
59	Total			(16.7)			(56.7)	(40.0)
60	Total Utility Revenue			4,480.6			4,947.2	466.7

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	1,944.1	28.8	1,972.9	2,193.3	19.1	2,212.3	239.4
2	Rate 6	898.0	158.4	1,056.4	1,043.3	163.3	1,206.6	150.2
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	2,842.1	187.1	3,029.3	3,236.6	182.4	3,418.9	389.6
5	Rate M1	935.8	20.1	955.9	1,109.5	20.5	1,130.0	174.1
6	Rate M2	132.9	42.0	174.9	173.9	44.7	218.6	43.7
7	Rate 01	400.1	15.7	415.8	467.5	14.0	481.5	65.7
8	Rate 10	44.1	25.5	69.6	65.9	23.9	89.8	20.2
9	Total - Union Rate Zone	1,512.8	103.3	1,616.1	1,816.8	103.1	1,919.9	303.7
10	Total General Service	4,355.0	290.5	4,645.4	5,053.4	285.4	5,338.8	693.4
	Contract							
11	Rate 100	2.7	1.5	4.2	4.3	1.4	5.7	1.5
12	Rate 110	15.3	40.5	55.8	26.4	41.9	68.3	12.5
13	Rate 115	0.1	8.8	8.9	0.4	9.1	9.6	0.6
14	Rate 125	0.0	12.0	12.0	0.0	12.5	12.5	0.5
15	Rate 135	0.4	1.6	2.0	1.2	1.3	2.5	0.4
16	Rate 145	0.1	1.8	1.9	0.2	1.6	1.8	(0.1)

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	0.1	2.6	2.8	1.2	1.1	2.3	(0.5)
18	Rate 200	34.3	1.7	36.1	36.5	1.7	38.1	2.1
19	Rate 300	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)
21	Total - EGD Rate Zone	53.1	70.5	123.6	70.1	70.5	140.7	17.0
22	Rate M4	12.8	29.7	42.6	16.7	31.1	47.8	5.3
23	Rate M7	7.6	23.8	31.4	10.5	25.6	36.1	4.7
24	Rate M9	3.3	1.2	4.5	3.9	1.3	5.2	0.7
25	Rate M10	0.1	0.0	0.1	0.1	0.0	0.1	0.0
26	Rate 20	2.7	31.8	34.5	4.9	34.7	39.6	5.0
27	Rate 100	0.0	11.8	11.8	0.0	11.4	11.4	(0.4)
28	Rate T1	0.0	14.0	14.0	0.0	14.4	14.4	0.4
29	Rate T2	0.0	78.7	78.7	0.0	79.3	79.3	0.6
30	Rate T3	0.0	7.5	7.5	0.0	7.8	7.8	0.3
31	Rate M5	0.9	2.4	3.3	0.7	2.5	3.2	(0.1)
32	Rate 25	2.5	4.1	6.6	2.0	4.1	6.0	(0.5)
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	29.9	205.0	234.9	38.7	212.2	250.9	16.0
35	Total Contract	83.0	275.5	358.5	108.8	282.7	391.5	33.0
36	Subtotal	4,438.0	566.0	5,004.0	5,162.2	568.1	5,730.3	726.4

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(34.1)			(27.5)	6.6
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(15.5)			(33.4)	(17.9)
40	Average Use/ Normalized Average Consumption	EGD (1)		4.1			0.0	(4.1)
41	Dawn Access Cost	EGD		1.2			0.0	(1.2)
42	Incremental Capital Module	EGD		(9.4)			6.9	16.4
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			12.0	0.0
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.0			0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD		0.0			0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2022 Estimate & 2023 Bridge Year (Continued)

Line No.	Particulars ($ millions)	2022 Estimate			2023 Bridge Year			2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)		9.4			(6.1)	(15.5)
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		(4.4)			1.2	5.6
54	Capital Pass-through	Union		(3.6)			(2.9)	0.7
55	LRAM	Union		0.4			0.4	0.0
56	Federal Carbon Program	Union		0.0			0.0	(0.0)
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(16.7)			(16.4)	0.3
58	Miscellaneous	EGI		0.0			0.0	0.0
59	Total			(56.7)			(65.8)	(9.1)
60	Total Utility Revenue			4,947.2			5,664.5	717.3

Notes:

(1) EGD rate zone.

(2) Union rate zones.

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
	General Service							
1	Rate 1	2,193.3	19.1	2,212.3	2,189.2	17.1	2,206.4	(5.9)
2	Rate 6	1,043.3	163.3	1,206.6	1,029.6	161.1	1,190.7	(15.9)
3	Rate 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total - EGD Rate Zone	3,236.6	182.4	3,418.9	3,218.9	178.2	3,397.1	(21.8)
5	Rate M1	1,109.5	20.5	1,130.0	1,221.6	20.6	1,242.2	112.2
6	Rate M2	173.9	44.7	218.6	203.4	44.8	248.3	29.7
7	Rate 01	467.5	14.0	481.5	470.6	13.6	484.2	2.7
8	Rate 10	65.9	23.9	89.8	59.2	23.2	82.4	(7.4)
9	Total - Union Rate Zone	1,816.8	103.1	1,919.9	1,954.8	102.3	2,057.1	137.2
10	Total General Service	5,053.4	285.4	5,338.8	5,173.7	280.5	5,454.2	115.4
	Contract							
11	Rate 100	4.3	1.4	5.7	4.2	1.4	5.6	(0.1)
12	Rate 110	26.4	41.9	68.3	26.3	41.7	68.1	(0.3)
13	Rate 115	0.4	9.1	9.6	0.4	9.1	9.5	(0.1)
14	Rate 125	0.0	12.5	12.5	0.0	12.5	12.5	0.0
15	Rate 135	1.2	1.3	2.5	1.1	1.3	2.3	(0.2)
16	Rate 145	0.2	1.6	1.8	0.2	1.6	1.8	0.0

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Sales	T-Service	Total	Sales	T-Service	Total	
17	Rate 170	1.2	1.1	2.3	1.2	1.1	2.3	(0.0)
18	Rate 200	36.5	1.7	38.1	36.9	1.7	38.6	0.5
19	Rate 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	Total - EGD Rate Zone	70.1	70.5	140.7	70.3	70.3	140.6	(0.1)
22	Rate M4	16.7	31.1	47.8	17.7	31.9	49.6	1.8
23	Rate M7	10.5	25.6	36.1	9.9	27.8	37.8	1.7
24	Rate M9	3.9	1.3	5.2	4.2	1.3	5.4	0.3
25	Rate M10	0.1	0.0	0.1	0.0	0.0	0.0	(0.1)
26	Rate 20	4.9	34.7	39.6	5.4	35.2	40.7	1.1
27	Rate 100	0.0	11.4	11.4	0.0	11.8	11.8	0.4
28	Rate T1	0.0	14.4	14.4	0.0	14.4	14.4	0.0
29	Rate T2	0.0	79.3	79.3	0.0	79.8	79.8	0.5
30	Rate T3	0.0	7.8	7.8	0.0	7.8	7.8	0.0
31	Rate M5	0.7	2.5	3.2	0.8	2.5	3.3	0.1
32	Rate 25	2.0	4.1	6.0	1.6	4.6	6.2	0.2
33	Rate 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	Total - Union Rate Zone	38.7	212.2	250.9	39.6	217.2	256.8	6.0
35	Total Contract	108.8	282.7	391.5	109.8	287.6	397.4	5.9
36	Subtotal	5,162.2	568.1	5,730.3	5,283.5	568.1	5,851.6	121.3

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
	Accounting Adjustments							
37	Tax Variance	EGI		(27.5)			0.0	27.5
38	Elimination of Prior Year Tax Variance	EGI		0.0			0.0	0.0
39	Accounting Policy Change	EGI		(33.4)			0.0	33.4
40	Average Use/ Normalized Average Consumption	EGD (1)		0.0			0.0	0.0
41	Dawn Access Cost	EGD		0.0			0.0	0.0
42	Incremental Capital Module	EGD		6.9			0.0	(6.9)
43	Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
44	Elimination of Prior Year Earnings Sharing Adjustment	EGD		0.0			0.0	0.0
45	Transactional Services Revenue	EGD		12.0			0.0	(12.0)
46	LRAM	EGD		0.0			0.0	0.0
47	Federal Carbon Program	EGD		0.0			0.0	0.0
48	Greenhouse Gas Emissions Administration	EGD		0.0			0.0	0.0
49	Reverse 2019 Gas Supply Plan Cost Consequences	EGD		0.0			0.0	0.0

Comparison of Unnormalized Revenue - Service Type & Rate Class - 2023 Bridge Year & 2024 Test Year (Continued)

Line No.	Particulars ($ millions)	2023 Bridge Year			2024 Test Year			2024 Test Over/(Under) 2023 Bridge
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (f-c)
		Utility		Total			Total	
50	Elimination of 2019 Gas Supply Plan Cost Consequences reversal	EGD		0.0			0.0	0.0
51	Average Use/ Normalized Average Consumption	Union (2)		(6.1)			0.0	6.1
52	Parkway Obligation Rate Variance	Union		0.0			0.0	0.0
53	Incremental Capital Module	Union		1.2			0.0	(1.2)
54	Capital Pass-through	Union		(2.9)			0.0	2.9
55	LRAM	Union		0.4			0.0	(0.4)
56	Federal Carbon Program	Union		0.0			0.0	0.0
57	Elimination of the Union rate zones unregulated storage cost from EGD rate zone revenues	EGI		(16.4)			0.0	16.4
58	Miscellaneous	EGI		0.0			0.0	0.0
59	Total			(65.8)			0.0	65.8
60	Total Utility Revenue			5,664.5			5,851.6	187.1

Notes:

(1) EGD rate zone.

(2) Union rate zones.

STORAGE & TRANSPORTATION REVENUE / UPSTREAM TRANSPORTATION OPTIMIZATION

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1. The purpose of this evidence is to provide details of the storage and transportation revenue and upstream transportation optimization. This evidence provides explanations of year-over-year drivers of variances and requests approval of the 2024 Test Year Forecast.

2. This evidence is organized as follows:
    1. Regulated Storage Revenue
    2. Regulated Transportation Revenue
    3. Upstream Transportation Optimization Revenue

3. Table 1 summarizes the components of regulated storage & transportation revenue. Since 2019, the consolidated Enbridge Gas results have been eliminating inter-utility charges related to activity between EGD and Union rate zones (see line 3 in Table 1) to accurately present the proper gross amounts related to gas sales and costs when presenting earnings.

Table 1
Utility Revenue From Regulated Storage & Transportation

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)
	Regulated Storage						
1	Total Regulated Storage	6.0	5.6	6.1	6.0	6.0	-
	Transportation & Exchanges						
2	Long Term Transportation	262.9	271.8	272.1	278.1	277.7	132.5
3	Elimination of Charges between EGD and Union Rate Zones	(132.0)	(136.2)	(138.5)	(143.8)	(145.8)	-
4	Total Long Term Transportation	130.9	135.6	133.6	134.3	131.9	132.5
5	Short-Term Transportation	9.1	5.7	7.2	7.2	7.2	14.5
6	Exchanges	2.3	1.0	1.7	0.7	-	15.3
7	Total Transportation & Exchanges	142.2	142.3	142.6	142.1	139.1	162.4
8	Total Revenue Regulated Storage & Transportation	148.2	148.0	148.7	148.1	145.1	162.4
9	Year-over-Year Variance		(0.3)	0.8	(0.6)	(3.0)	17.3

1. Regulated Storage Revenue

4. There is currently excess utility storage space to serve Union rate zone customers which is sold at market-based rates on a short-term basis. Table 2 shows the actual excess utility space sold in 2019 to 2021, 2022 Estimate and 2023 Bridge Year.

5. Utility storage space will now be planned and operated on an integrated basis. As provided at Exhibit 4, Tab 2, Schedule 1, there will no longer be any excess utility space available for sale starting in the 2024 Test Year.

Table 2
Excess Utility Storage Space

Line No.	Particulars (PJ)	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
1	Storage Space Reserved for Utility	100.0	100.0	100.0	100.0	100.0	100.0
2	Utility Space Requirement	97.1	97.7	97.0	96.5	96.7	100.0
3	Excess Utility Storage Space	2.9	2.3	3.0	3.5	3.3	-
4	Actual average annual storage value ($/GJ)	0.73	1.17	0.51	TBD	TBD	N/A

2. Regulated Transportation Revenue

2.1. Long-term Transportation

6. The 2024 Test Year Forecast for long-term transportation revenue is $132.5 million. This forecast is comprised of two main components: Rate M12 long-term transportation and other long-term transportation (including Rate C1 long-term transportation). Long-term is defined as 365 days or greater. Factors which influence this forecast are customer demands (both winter and peak day demand requirements), market prices and long-term expectations regarding reliable access to gas supply and storage. With limited new alternative infrastructure options in Eastern Canada and the U.S. Northeast, Dawn Parkway transportation is forecast to remain a reliable way for local distribution companies (LDCs) and marketers to source natural gas at Dawn and transport that gas to market areas (directly or indirectly). Actual and forecast revenue for these services, as well as year-over-year variances, are provided at Attachments 1 and 2.

Rate M12 Long-Term Transportation

7. The revenue for Rate M12 long-term transportation represents long-term firm transportation on Enbridge Gas's Dawn Parkway System. It includes M12 and M12-

X transportation services which transport gas supply East, West, or bi-directionally on the system.

8. There has been a substantial increase in demand and revenue on the Dawn Parkway System since Union's 2013 Rebasing proceeding[1]. This increased demand on the Dawn Parkway System is influenced by market desire to access the Dawn Hub (access to a liquid market, diverse supplies and storage); access to Marcellus and Utica supply through Dawn, Niagara and Chippawa; to convert long haul transportation to short haul transportation for eastern North American markets to reduce demand charges; and for continued demand growth in Ontario as well as Québec, the Maritimes and the U.S. Northeast.

9. Dawn Parkway System facility expansions during 2015 to 2017 increased capacity by 1.3 PJ/d to meet the increased market demand for firm transportation services. Since then, demand for Dawn Parkway System capacity has been steadily growing. Since 2017, there has been incremental contracted transportation capacity which has been offset by capacity turnback. This has kept the Dawn Parkway System at or near capacity without building facilities.

10. As referenced in Table 1, the year-over-year changes in long-term transportation revenue remain stable due to the continued demand for Dawn Parkway transportation services. In 2024, with the amalgamation of EGD and Union and the proposed harmonization to one rate zone, Rate M12 long-term transportation contracts are no longer required between EGD and Union which eliminates 3.2 PJ/d of M12 contracting, resulting in a reduction of transportation revenue. These costs will no longer be treated as gas supply costs and will instead be part of rate base

[1] EB-2011-0210.

and recovered within delivery rates. Please see Exhibit 4, Tab 2, Schedule 1 for further detail.

Other Long-Term Transportation

11. Components that comprise the other long-term transportation revenue forecast include: Rate 331 (Tecumseh transmission service); Rate 332 (EGD Albion transmission line); Rate C1 long-term transportation; Rate M13 (local production); Rate M16 (storage and transportation service) and Rate M17 (transportation). Actual and forecast revenue for these services are provided at Attachment 1.

12. The Rate C1 firm transportation revenue forecast is lower in the 2024 Test Year reflecting non-renewal of firm C1 Bluewater to Dawn and Kirkwall to Dawn contracts.

2.2. Short-Term Transportation Revenue Forecast

13. The 2024 Test Year Forecast for short-term transportation revenue is $14.5 million. Short-term is defined as contract terms less than 365 days. Factors which influence this forecast are the level of temporary surplus capacity available on upstream and downstream transportation assets. This varies depending on a number of factors, including weather, changing market dynamics such as market prices and locational basis differentials, and market demands from primarily U.S. Northeast power markets and LDCs. Short-term transportation provides a highly reliable way for LDCs and marketers to source natural gas from Dawn.

14. Short-term transportation is comprised of short-term firm and interruptible transportation on the Dawn Parkway System, Panhandle System, and St.

Clair/Bluewater System. Actual and forecast revenue for these services are provided at Attachment 1.

15. Prior to 2024, the Dawn Parkway System is considered upstream to EGD ratepayers and the optimization benefits from exchange sales utilizing the Dawn Parkway System are shared 90/10 through the Transactional Services Deferral Account (TSDA). As of 2024, the Dawn Parkway System will no longer be considered upstream to any Enbridge Gas customers and therefore, the benefit of the use of the Dawn Parkway System to transact these exchange sales, will not be shared 90/10 in the proposed Upstream Transportation Optimization deferral account.

3. Upstream Transportation Optimization Revenue

16. The upstream transportation optimization revenue forecast is $17.0 million for the 2024 Test Year and is comprised entirely of exchange revenue. Actual and forecast revenue for this service is provided at Attachment 3. Enbridge Gas includes 90% of this revenue ($15.3 million) in rates to reduce rate payer costs. Any year-over-year variance in exchange revenues is attributed to changing market dynamics, weather and demand variations. Variances relative to the $15.3 million included in rates will be captured in the Upstream Transportation Optimization Variance Account. Please see Exhibit 9, Tab 1, Schedule 1, Attachment 3 and Exhibit 9, Tab 1, Schedule 2 for more detail on the proposed harmonized variance account.

17. Revenue from exchanges are subject to sharing through the Upstream Transportation Optimization Variance Account. Because Table 1 represents utility revenue from regulated storage and transportation subject to earnings sharing, exchanges on line 6 represents the required offset to gas costs in utility revenue to eliminate the impact of upstream transportation optimization. In the 2023 Bridge

Year, there is no required offset to gas costs as the forecast for exchanges in those years is done on a net basis. In the 2024 Test Year, the 90% of optimization revenue is displayed to show that is contributing to regulated earnings.

18. Prior to 2019, EGD optimized storage space while Union optimized upstream transportation but did not optimize utility space[2].

19. Exchanges are the optimization of upstream transportation assets that are part of the Gas Supply Plan as provided at Exhibit 4, Tab 2, Schedule 1 that serve the purpose of meeting design day market demands and annual customer requirements. If circumstances arise where upstream transportation assets are not fully required (i.e. temporarily surplus), then those assets can be made available to generate revenue through exchanges.

20. Enbridge Gas is proposing to consolidate the following existing EGD and Union transportation optimization accounts into the Upstream Transportation Optimization Variance Account:
    a) EGD - Transactional Services Deferral Account (Account No. 179-80)
    b) Union - Upstream Transportation Optimization (Account No. 179-131)

[2] EB-2011-0038.

Utility Revenue From Regulated Storage & Transportation

Line No.	Particulars ($000s)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Regulated Storage Services								
1	Rate 325: Transmission, Compression and Storage (1)	EGD	0	0	0	0	0	1,453	2,031
2	Total		0	0	0	0	0	1,453	2,031
	Regulated Transportation Services								
3	Rate 331: Gas Transmission	EGD	150	126	35	82	80	155	76
4	Rate 332: Gas Transmission	EGD	1,550	1,510	1,810	1,801	6,333	17,636	17,388
5	Total		1,700	1,636	1,845	1,883	6,413	17,792	17,464
6	Total		1,700	1,636	1,845	1,883	6,413	19,244	19,495
	Regulated Storage Services								
7	C1 Off-Peak Storage	Union	500	389	241	603	2,749	709	141
8	Supplemental Balancing Services	Union	2,000	1,841	988	1,283	2,335	1,271	1,583
9	Gas Loans	Union	0	56	54	38	19	15	15
10	C1 Short Term Firm Peak Storage	Union	7,883	4,747	3,235	4,935	5,627	4,618	5,011
11	Short Term Storage and Balancing Services Deferral	Union	0	1,811	3,265	508	(2,226)	1,183	1,413
12	Total		10,383	8,844	7,783	7,368	8,503	7,796	8,163

Utility Revenue From Regulated Storage & Transportation (Continued)

Line No.	Particulars ($000s)	Utility	2013 OEB-Approved (a)	2013 Actual (b)	2014 Actual (c)	2015 Actual (d)	2016 Actual (e)	2017 Actual (f)	2018 Actual (g)
	Regulated Transportation Services								
13	M12 Transportation	Union	120,963	125,302	114,743	120,975	145,913	180,310	192,688
14	M12-X Transportation	Union	13,896	13,895	14,536	15,445	17,130	20,144	21,812
15	C1 Long Term Transportation	Union	7,039	5,478	5,795	6,807	9,154	18,410	25,460
16	C1 Short Term Transportation	Union	11,067	9,713	13,251	10,007	7,923	8,318	9,546
17	Gross Exchange Revenue	Union	14,918	24,524	7,919	7,739	3,358	5,015	7,296
18	Ratepayer Portion of Exchange Revenue	Union	(13,426)	(21,150)	(7,127)	(6,965)	(3,022)	(4,513)	(6,567)
19	M13 Local Production	Union	424	366	333	346	359	316	248
20	M16 Transportation	Union	694	719	657	578	599	505	1,096
21	S&T:Transportation Revenue Cap & Trade	Union	0	0	0	0	0	5,018	3,061
22	Other S&T Revenue	Union	1,423	1,260	1,266	1,311	1,270	3,414	4,238
23	Total		156,997	160,108	151,373	156,243	182,683	236,937	258,879
24	Total		167,380	168,952	159,156	163,611	191,186	244,733	267,042

Note:

(1) Rate 325 revenues historically presented in other revenue until 2017.

Utility Revenue From Regulated Storage & Transportation

Line No.	Particulars ($000s)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	Regulated Storage Services							
1	C1 Off-Peak Storage	EGI	418	1,002	433	652	717	0
2	Supplemental Balancing Services	EGI	869	1,016	640	824	756	0
3	Gas Loans	EGI	2	1	1	(1)	0	0
4	C1 Short Term Firm Peak Storage	EGI	2,125	2,715	1,536	2,043	1,678	0
5	Short Term Storage and Balancing Services Deferral	EGI	2,630	907	3,577	2,449	2,834	0
6	Rate 325: Transmission, Compression, & Storage	EGI	2,114	1,988	2,169	2,185	2,090	0
7	Less: Elimination of charges between EGD and Union rate zones	EGI	(2,162)	(2,000)	(2,226)	(2,196)	(2,090)	0
8	Total		5,996	5,630	6,130	5,956	5,986	0
	Regulated Transportation Services							
9	M12 Transportation	EGI	198,610	206,677	206,637	214,178	220,669	87,779
10	M12-X Transportation	EGI	21,314	21,335	21,527	19,329	14,808	3,041
11	C1 Long Term Transportation	EGI	22,002	20,882	19,934	20,922	19,007	15,954
12	Rate 332: Gas Transmission	EGI	17,440	17,804	18,107	18,360	19,179	19,179
13	C1 Short Term Transportation	EGI	9,076	5,698	7,226	7,156	7,180	14,527
14	Gross Exchange Revenue	EGI	2,279	999	1,729	705	0	15,337
15	Rate 331: Gas Transmission	EGI	76	259	165	168	169	169
16	Rate 401: RNG Injection Service	EGI	0	0	0	393	889	4,232
17	M13 Local Production	EGI	195	122	157	170	176	360
18	M16 Transportation	EGI	1,002	1,089	926	828	743	465
19	M17 Transportation	EGI	0	109	545	511	529	529
20	S&T:Transportation Carbon Facility Collection	EGI	758	1,931	2,692	1,773	0	0
21	Other S&T Revenue	EGI	1,501	1,580	1,440	1,471	1,546	809
22	Less: Elimination of charges between EGD and Union rate zones	EGI	(132,009)	(136,155)	(138,489)	(143,827)	(145,771)	0
23	Total		142,244	142,330	142,597	142,140	139,123	162,381
24	Total Revenue Regulated Storage & Transportation		148,240	147,960	148,728	148,096	145,109	162,381

Comparison of Utility Revenue from Regulated Storage & Transportation - 2019 Actual & 2020 Actual

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c) = (b-a)
	Regulated Storage Services			
1	C1 Off-Peak Storage	418	1,002	584
2	Supplemental Balancing Services	869	1,016	147
3	Gas Loans	2	1	(1)
4	C1 Short Term Firm Peak Storage	2,125	2,715	590
5	Short Term Storage and Balancing Services Deferral	2,630	907	(1,723)
6	Rate 325: Transmission, Compression, & Storage	2,114	1,988	(126)
7	Less: Elimination of charges between EGD and Union rate zones	(2,162)	(2,000)	162
8	Total	5,996	5,630	(366)
	Regulated Transportation Services			
9	M12 Transportation	198,610	206,677	8,067
10	M12-X Transportation	21,314	21,335	21
11	C1 Long Term Transportation	22,002	20,882	(1,120)
12	Rate 332: Gas Transmission	17,440	17,804	364
13	C1 Short Term Transportation	9,076	5,698	(3,378)
14	Gross Exchange Revenue	2,279	999	(1,280)
15	Rate 331: Gas Transmission	76	259	183
16	Rate 401: RNG Injection Service	0	0	0
17	M13 Local Production	195	122	(73)
18	M16 Transportation	1,002	1,089	87
19	M17 Transportation	0	109	109
20	S&T:Transportation Carbon Facility Collection	758	1,931	1,173
21	Other S&T Revenue	1,501	1,580	79
22	Less: Elimination of charges between EGD and Union rate zones	(132,009)	(136,155)	(4,146)
23	Total	142,244	142,330	86
24	Total Revenue Regulated Storage & Transportation	148,240	147,960	(280)

Comparison of Utility Revenue from Regulated Storage & Transportation - 2020 Actual & 2021 Actual

Line No.	Particulars ($ millions)	2020 Actual	2021 Actual	2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c) = (b-a)
	Regulated Storage Services			
1	C1 Off-Peak Storage	1,002	433	(569)
2	Supplemental Balancing Services	1,016	640	(376)
3	Gas Loans	1	1	0
4	C1 Short Term Firm Peak Storage	2,715	1,536	(1,179)
5	Short Term Storage and Balancing Services Deferral	907	3,577	2,670
6	Rate 325: Transmission, Compression, & Storage	1,988	2,169	181
7	Less: Elimination of charges between EGD and Union rate zones	(2,000)	(2,226)	(226)
8	Total	5,630	6,130	501
	Regulated Transportation Services			
9	M12 Transportation	206,677	206,637	(40)
10	M12-X Transportation	21,335	21,527	192
11	C1 Long Term Transportation	20,882	19,934	(948)
12	Rate 332: Gas Transmission	17,804	18,107	303
13	C1 Short Term Transportation	5,698	7,226	1,528
14	Gross Exchange Revenue	999	1,729	730
15	Rate 331: Gas Transmission	259	165	(94)
16	Rate 401: RNG Injection Service	0	0	0
17	M13 Local Production	122	157	35
18	M16 Transportation	1,089	926	(163)
19	M17 Transportation	109	545	436
20	S&T:Transportation Carbon Facility Collection	1,931	2,692	761
21	Other S&T Revenue	1,580	1,440	(140)
22	Less: Elimination of charges between EGD and Union rate zones	(136,155)	(138,489)	(2,334)
23	Total	142,330	142,597	267
24	Total Revenue Regulated Storage & Transportation	147,960	148,728	768

Comparison of Utility Revenue from Regulated Storage & Transportation - 2021 Actual & 2022 Estimate

Line No.	Particulars ($ millions)	2021 Actual	2022 Estimate	2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c) = (b-a)
	Regulated Storage Services			
1	C1 Off-Peak Storage	433	652	219
2	Supplemental Balancing Services	640	824	184
3	Gas Loans	1	(1)	(2)
4	C1 Short Term Firm Peak Storage	1,536	2,043	507
5	Short Term Storage and Balancing Services Deferral	3,577	2,449	(1,128)
6	Rate 325: Transmission, Compression, & Storage	2,169	2,185	15
7	Less: Elimination of charges between EGD and Union rate zones	(2,226)	(2,196)	30
8	Total	6,130	5,956	(174)
	Regulated Transportation Services			
9	M12 Transportation	206,637	214,178	7,541
10	M12-X Transportation	21,527	19,329	(2,198)
11	C1 Long Term Transportation	19,934	20,922	988
12	Rate 332: Gas Transmission	18,107	18,360	253
13	C1 Short Term Transportation	7,226	7,156	(70)
14	Gross Exchange Revenue	1,729	705	(1,024)
15	Rate 331: Gas Transmission	165	168	3
16	Rate 401: RNG Injection Service	0	393	393
17	M13 Local Production	157	170	13
18	M16 Transportation	926	828	(98)
19	M17 Transportation	545	511	(34)
20	S&T:Transportation Carbon Facility Collection	2,692	1,773	(919)
21	Other S&T Revenue	1,440	1,471	31
22	Less: Elimination of charges between EGD and Union rate zones	(138,489)	(143,827)	(5,337)
23	Total	142,597	142,140	(457)
24	Total Revenue Regulated Storage & Transportation	148,728	148,096	(631)

Comparison of Utility Revenue from Regulated Storage & Transportation - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars ($ millions)	2022 Estimate	2023 Bridge Year	2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c) = (b-a)
	Regulated Storage Services			
1	C1 Off-Peak Storage	652	717	65
2	Supplemental Balancing Services	824	756	(68)
3	Gas Loans	(1)	0	1
4	C1 Short Term Firm Peak Storage	2,043	1,678	(364)
5	Short Term Storage and Balancing Services Deferral	2,449	2,834	385
6	Rate 325: Transmission, Compression, & Storage	2,185	2,090	(95)
7	Less: Elimination of charges between EGD and Union rate zones	(2,196)	(2,090)	106
8	Total	5,956	5,986	30
	Regulated Transportation Services			
9	M12 Transportation	214,178	220,669	6,491
10	M12-X Transportation	19,329	14,808	(4,521)
11	C1 Long Term Transportation	20,922	19,007	(1,915)
12	Rate 332: Gas Transmission	18,360	19,179	819
13	C1 Short Term Transportation	7,156	7,180	23
14	Gross Exchange Revenue	705	0	(705)
15	Rate 331: Gas Transmission	168	169	1
16	Rate 401: RNG Injection Service	393	889	496
17	M13 Local Production	170	176	5
18	M16 Transportation	828	743	(86)
19	M17 Transportation	511	529	18
20	S&T:Transportation Carbon Facility Collection	1,773	0	(1,773)
21	Other S&T Revenue	1,471	1,546	74
22	Less: Elimination of charges between EGD and Union rate zones	(143,827)	(145,771)	(1,945)
23	Total	142,140	139,123	(3,017)
24	Total Revenue Regulated Storage & Transportation	148,096	145,109	(2,987)

Comparison of Utility Revenue from Regulated Storage & Transportation - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars ($ millions)	2023 Bridge Year (a)	2024 Test Year (b)	2024 Test Over/(Under) 2023 Bridge (c) = (b-a)
	Regulated Storage Services			
1	C1 Off-Peak Storage	717	0	(717)
2	Supplemental Balancing Services	756	0	(756)
3	Gas Loans	0	0	(0)
4	C1 Short Term Firm Peak Storage	1,678	0	(1,678)
5	Short Term Storage and Balancing Services Deferral	2,834	0	(2,834)
6	Rate 325: Transmission, Compression, & Storage	2,090	0	(2,090)
7	Less: Elimination of charges between EGD and Union rate zones	(2,090)	0	2,090
8	Total	5,986	0	(5,986)
	Regulated Transportation Services			
9	M12 Transportation	220,669	87,779	(132,890)
10	M12-X Transportation	14,808	3,041	(11,768)
11	C1 Long Term Transportation	19,007	15,954	(3,053)
12	Rate 332: Gas Transmission	19,179	19,179	0
13	C1 Short Term Transportation	7,180	14,527	7,347
14	Gross Exchange Revenue	0	15,337	15,337
15	Rate 331: Gas Transmission	169	169	0
16	Rate 401: RNG Injection Service	889	4,232	3,342
17	M13 Local Production	176	360	185
18	M16 Transportation	743	465	(278)
19	M17 Transportation	529	529	0
20	S&T:Transportation Carbon Facility Collection	0	0	0
21	Other S&T Revenue	1,546	809	(737)
22	Less: Elimination of charges between EGD and Union rate zones	(145,771)	0	145,771
23	Total	139,123	162,381	23,257
24	Total Revenue Regulated Storage & Transportation	145,109	162,381	17,271

Optimization Service Revenue

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Storage Optimization	EGD	1.3	2.4	1.7	0.5	7.3	1.6	0.4
2	Transportation Optimization	EGD	12.0	33.7	12.9	22.7	10.5	10.4	14.3
3	ETT Revenue	EGD	0.0	0.0	0.1	0.2	0.1	0.0	0.1
4	Total Optimization Net Revenue		13.3	36.1	14.7	23.4	17.8	12.0	14.8
5	Optimization Credit from Net Sales (90%)	EGD	12.0	32.5	13.3	21.1	16.0	10.8	13.3
6	Shareholder Incentive (10%)	EGD	1.3	3.6	1.5	2.3	1.8	1.2	1.5
7	Transportation Optimization	Union	14.9	24.5	7.9	7.7	3.4	5.0	7.3
8	Total Optimization Net Revenue		14.9	24.5	7.9	7.7	3.4	5.0	7.3
9	Optimization Credit from Net Sales (90%)	Union	13.4	22.1	7.1	7.0	3.0	4.5	6.6
10	Shareholder Incentive (10%)	Union	1.5	2.5	0.8	0.8	0.3	0.5	0.7

Optimization Service Revenue

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
1	Storage Optimization	EGD (1)	0.1	0.0	0.0	0.0	0.0	0.0
2	Transportation Optimization	EGD	13.1	17.6	17.5	31.0	45.8	0.0
3	ETT Revenue	EGD	0.0	0.0	0.2	0.0	0.0	0.0
4	Total Optimization Net Revenue		13.2	17.6	17.7	31.0	45.8	0.0
5	Optimization Credit from Net Sales (90%)	EGD	11.9	15.9	15.9	27.9	41.2	0.0
6	Shareholder Incentive (10%)	EGD	1.3	1.8	1.8	3.1	4.6	0.0
7	Transportation Optimization	Union (2)	6.0	4.2	7.5	6.2	7.0	0.0
8	Total Optimization Net Revenue		6.0	4.2	7.5	6.2	7.0	0.0
9	Optimization Credit from Net Sales (90%)	Union	5.4	3.8	6.8	5.6	6.3	0.0
10	Shareholder Incentive (10%)	Union	0.6	0.4	0.8	0.6	0.7	0.0
11	Total Optimization Net Revenue	EGI	19.1	21.9	25.2	37.2	52.8	17.0
12	Optimization Credit from Net Sales (90%)	EGI	17.2	19.7	22.7	33.5	47.5	15.3
13	Shareholder Incentive (10%)	EGI	1.9	2.2	2.5	3.7	5.3	1.7

Notes:

(1) EGD rate zone.

(2) Union rate zones.

OTHER REVENUE

RACHEL GOODREAU, MANAGER REVENUE AND COST OF GAS

1. The purpose of this evidence is to request OEB approval of the 2024 Test Year other revenue forecast. Other revenue is generated through the delivery of services to customers that relate to gas distribution services and other ancillary services. This evidence presents details of other revenue for the 2019 to 2021 historical years, 2022 Estimate, 2023 Bridge Year and 2024 Test Year Forecast for Enbridge Gas.

2. Other revenue is the product of charges billed by Enbridge Gas to customers to recover costs incurred by the utility for specific customer services, damage investigations, repair services and ancillary services. Some of these services are provided at the customer's request, such as service line alterations. Other miscellaneous charges arise due to ongoing business activities, such as new customer account charges and the restoration of gas service after the termination of service due to non-payment. Recovering costs through miscellaneous service charges aligns cost incurrence with recovery based on the services provided. The other revenue generated from miscellaneous service charges offsets the costs incurred to provide the service, thereby reducing the base delivery rates paid by all customers.

3. The 2024 Test Year other revenue forecast includes Enbridge Gas's request to harmonize, eliminate and establish new service charges. Further details of the changes to miscellaneous service charges are provided at Exhibit 8, Tab 3, Schedule 1. The proposed harmonized service charges for the Direct Purchase Administration Charges (DPAC) and Distributor Consolidated Billing (DCB) are provided at Exhibit 8, Tab 3, Schedule 2. Proposed changes to the Open Bill Access Program are provided at Exhibit 1, Tab 14, Schedule 4.

4. The forecast for other revenue is made up of several components. This evidence is organized as follows:
    1. Late Payment Penalties
    2. Account Opening Charges
    3. Other Billing Revenue
    4. DPAC and DCB
    5. Open Bill Access (OBA) Revenue
    6. Mid Market Transactions
    7. Natural Gas Vehicle (NGV) Rental Revenue
    8. Other Operating Revenue
    9. Other Income

5. Table 1 provides the historical actual other revenue for Enbridge Gas for 2019 to 2021, as well as the forecast of other revenue for the 2022 Estimate, 2023 Bridge Year and 2024 Test Year. Attachment 1 provides variances for year-over-year changes from 2019 to 2024.

Table 1
Utility Other Revenue & Other Income

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Estimate (d)	2023 Bridge Year (e)	2024 Test Year (f)
	Other Revenue							
1	Late Payment Penalties	EGI	19.4	20.8	19.9	20.2	25.3	26.9
2	Account Opening Charges	EGI	12.4	9.8	11.1	15.1	13.6	13.9
3	Other Billing Revenue (1)	EGI	4.1	3.0	3.2	10.8	10.2	11.0
4	Customer Billing Revenue		36.0	33.6	34.1	46.1	49.1	51.8
	Direct Purchase Administration Charges and Distributor							
5	Consolidated Billing	EGI	2.5	2.4	2.3	2.3	2.2	5.4
6	Open Bill Access Revenue (2)	EGI	5.4	5.4	5.4	5.4	5.4	-
7	Mid Market Transactions	EGI	1.4	1.1	1.2	1.2	1.2	1.2
8	Rental Revenue - NGV Program	EGI	1.6	1.8	1.8	2.0	1.9	1.9
9	Other Operating Revenue	EGI	2.8	3.4	4.2	1.9	1.7	1.7
10	Total		49.6	47.7	49.1	58.9	61.4	61.9
	Other Income							
11	Other Income (3)	EGI	(1.8)	4.5	0.9	1.0	1.8	2.4
12	Total Other Revenue & Other Income		47.8	52.2	50.0	60.0	63.2	64.3

Notes:
(1) There was an accounting presentation change implemented in 2022 for both street service alteration revenues for Union, and plant damage recoveries for EGI to be presented as other revenue instead of an O&M recovery.
(2) Enbridge Gas plans to wind down the OBA program effective October 31, 2024. All OBA net revenues for the 2024 Test Year will be captured in a deferral account and credited to ratepayers.
(3) Other Income includes gains/losses on FX, gains/losses on sales of assets, and sales-type lease income related to the NGV program.

1. Late Payment Penalties

6. Late payment penalties are calculated in adherence to the prescribed rate from the OEB's customer service rules for natural gas utilities using a monthly interest rate of 1.5%[1]. Late payment penalties take effect 20 days after a customer's bill date.

7. The forecast for late payment penalties is calculated based on the sales forecast for each respective year with 2-year historical average roll rates used to determine expected arrears balances on a monthly basis. The roll rate is determined based on the percentage of arrears that roll from one category (i.e. number of days overdue) of delinquency into the next. There is also a factor for disconnections. Once a customer is disconnected their arrears are no longer applicable for late payment penalties. A decrease in disconnections would lead to an increase in late payment penalties, and vice versa. The 1.5% interest rate is applied to the estimated arrears balances to determine expected late payment penalties revenue.

8. The increase in late payment penalties shown for 2023 and 2024 is driven by a higher revenue forecast as provided at Exhibit 3, Tab 2, Schedule 1.

2. Account Opening Charges

9. Account opening charges include new account and meter unlock charges. The new account charge is applied to customers when a new account is activated with Enbridge Gas. The charge is applicable to new accounts set up in new or existing premises if a change in ownership or occupancy occurs. The meter unlock charge occurs when a customer has been reconnected to gas service due to a previous disconnection for non-payment.

[1] Ontario Energy Board. Rules for natural gas utilities. https://www.oeb.ca/consumer-information-and-protection/oebs-consumer-protection-role/rules-natural-gas-utilities

10. Table 2 shows a summary of the amounts related to new account and meter unlock revenues from 2019 through to the 2024 Test Year.

Table 2
Other Revenue Account Opening Charges

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year	2024 Test Year
			(a)	(b)	(c)	(d)	(e)	(f)
1	New Account (1)	EGI	9.9	9.7	10.8	12.5	11.0	9.4
2	Meter Unlocks (2)	EGI	2.6	0.1	0.2	2.6	2.6	4.5
3	Total Account Opening Charges		12.4	9.8	11.1	15.1	13.6	13.9

Notes:
(1) New account charges include charges for customer moves, and new premises.
(2) Meter unlocks is specifically for meter unlocks related to disconnections for non-payment. Seasonal meter unlocks are a part of other billing revenue.

11. New account charges can result from a new premise or a customer move. There has been a decreasing trend from 2019 to 2024 in revenue related to new premises driven by decreasing volume of customer additions as provided at Exhibit 3, Tab 2, Schedule 6. The forecast for revenue related to new premises is based on forecasted customer additions times the applicable charge as provided at Exhibit 8, Tab 3, Schedule 1.

12. The forecast for new account charges relating to customer moves for 2022 and 2023 was based on the forecast of expected moves multiplied by the existing new account charge. The 2024 Test Year Forecast for customer moves was based on the forecast of expected moves multiplied by the harmonized new account charge as provided at Exhibit 8, Tab 3, Schedule 1. The harmonized charge leads to a reduction of approximately $1.6 million in new account revenues because it is a reduced charge for the Union rate zones.

13. There was a significant decrease in the revenue associated with meter unlock charges in 2020 and 2021. Rate-regulated natural gas utilities are not permitted to disconnect residential customers for non-payment during the winter, from November 15 to April 30.[2] During 2020 and 2021, Enbridge Gas did not disconnect customer meters for the full period of time in which it was permitted to do so, specifically for the periods of May 2020 to September 2020, and May 2021 to August 2021. This change in practice was made to support customers who were facing financial difficulties because of the impacts of COVID-19 and to align with the OEB's extended electricity disconnection ban that extended the ban on electricity disconnections to July 31, 2020. The 2022 and 2023 forecasts are based on returning to pre-COVID-19 levels of activity, in line with 2019 actuals.

14. The 2024 Test Year Forecast for meter unlock charges is approximately $4.5 million based on the harmonized charge provided at Exhibit 8, Tab 3, Schedule 1 multiplied by the forecast volume of reconnections. The increased harmonized meter unlock charge provided at Exhibit 8, Tab 3, Schedule 1 drives approximately $1.9 million of the increase between 2023 and 2024.

3. Other Billing Revenue

15. Other billing revenue is comprised of the following charges: non-sufficient funds (NSF), construction heat activation, safety inspection, seasonal meter unlocks, meter dispute tests, service line alterations, damage cost recovery charges and certain custom charges. Descriptions of these service charges are provided at Exhibit 8, Tab 3, Schedule 1.

[2] Ontario Energy Board. Rules for natural gas utilities. https://www.oeb.ca/consumer-information-and-protection/oebs-consumer-protection-role/rules-natural-gas-utilities

16. Exhibit 8, Tab 3, Schedule 1, Table 7 also details charges that are proposed for elimination as of January 1, 2024, and therefore have not been reflected in the 2024 Test Year Forecast. These eliminated charges do not have a material impact to other billing revenue. The cut off at main charge is proposed to be eliminated. However it is not accounted for as other billing revenue, thus there is no impact to the 2024 Test Year other billing revenue forecast because of its elimination.

17. The new regulations under Bill 93[3] are expected to cause significant changes to the locate delivery services in Ontario. Enbridge Gas is proposing to introduce a new variance account to protect customers and the Company from the cost uncertainty related to Bill 93 in 2024 and beyond. Enbridge Gas is also proposing a new charge for locate requests from third-party contactors and other utilities that require a field locate. A description of the proposed variance account, the Locate Delivery Services Variance Account (LDSVA), is provided at Exhibit 9, Tab 1, Schedule 3. A description of the proposed service charge, the Locate Delivery Service Charge, is provided at Exhibit 8, Tab 3, Schedule 1. The other billing revenue does not include a forecast of the proposed locate delivery service charge. Amounts collected from the charge will be recorded in the LDSVA.

18. Other billing revenue amounts have been largely consistent from 2019 to 2021. In 2022, an accounting presentation change was made to reflect service line alteration revenue for the Union rate zones ($1.2 million) and damage cost recoveries for the EGD and Union rate zones ($6.2 million) as other revenue instead of as recoveries to O&M. The EGD rate zone was already accounting for service line alteration

[3] Bill 93, Getting Ontario Connected Act, 2022, amends Bill 8, the Ontario Underground Infrastructure Notification System Act, 2012 and Bill 257, the Building Broadband Faster Act, 2021.

revenue as other revenue. These amounts are accounted for in other billing revenue on a prospective basis.

19. The 2022 Estimate and 2023 Bridge Year revenue forecasts for safety inspection, construction heat activation, meter dispute test, seasonal meter unlocks, and service line alterations were based on applying a 3-year historical average. The 2024 Test Year Forecast for these items were derived from the charges provided at Exhibit 8, Tab 3, Schedule 1 and multiplied by expected quantity for 2024.

20. The 2024 Test Year Forecast for damage cost recoveries and NSF charges are based on a 3-year historical average.

21. The increase of $0.9 million in other billing revenue between 2023 Bridge Year and 2024 Test Year is primarily due to the harmonized charges provided at Exhibit 8, Tab 3, Schedule 1.

4. DPAC and DCB

22. DPAC revenue includes fees charged to direct purchase (DP) customers for Enbridge Gas administration of their DP pools/contracts, including contract management, nominations, gas transaction services, load balancing, and reporting banked gas account balances and storage. The DPAC fee is charged per pool or contract on a monthly basis over the term of the contract. A pool is a group of one or more customers who have been associated with an agent for the purpose of the delivery of gas by the agent to the Company and the redelivery of that gas by the Company to the customers for a period of time. Pools have an identifier, start and end dates, a point of acceptance, one or more terminal locations and an aggregate mean daily volume.

23. DCB revenue represents fees earned primarily from energy marketers for billing their gas commodity and transportation charges on Enbridge Gas bills to their customers on their behalf and remitting such charges to them. The DCB fee is charged per end-use customer on a monthly basis. The other DCB service, invoice vendor adjustment (IVA), is used by energy marketers to bill one-time charges or rebates to customers. The marketer is charged for each IVA transaction.

24. Enbridge Gas is proposing to simplify and harmonize the DPAC and DCB programs and rates. In addition, Enbridge Gas is proposing to harmonize the regulatory treatment of the DCB programs across EGD and Union to align with the existing Union rate zones' treatment, in which all the revenue from the DCB program is treated as regulated and reported as other revenue. Currently, the EGD rate zone DCB program is treated as unregulated revenue. Further details of these proposals are provided at Exhibit 1, Tab 14, Schedule 3.

25. The 2024 Test Year Forecast for DCB and DPAC revenue was calculated using the proposed harmonized rates provided at Exhibit 8, Tab 3, Schedule 2. The 2024 Test Year DCB revenue is based on allocated costs to provide the DCB service, including administration, bad debt and IVA transactions as provided at Exhibit 8, Tab 3, Schedule 2. The revenue forecast for the 2024 Test Year includes an additional $1.2 million related to the proposed treatment of the EGD DCB program revenue as regulated revenue (which was not the case prior to the 2024 Test Year). The increase for Union DCB revenue of approximately $0.9 million is driven by the proposed harmonized rates. The combined increase in DCB revenue from 2023 Bridge Year to 2024 Test Year is $2.1 million.

26. The 2024 Test Year Forecast for DPAC revenue is driven by the expected number of pools. The forecasted pool count was based on the February 2022 pool count.

The combined pool counts of 2,015 for Enbridge Gas is used in the 2024 proposed charge calculation at Exhibit 8, Tab 3, Schedule 2, Table 3. The increase in DPAC revenue resulting from the proposed harmonized rates is approximately $1.1 million.

5. Open Bill Access (OBA) Revenue

27. Open Bill Access (OBA) revenue represents net revenues that Enbridge Gas earns through the Open Bill Access (OBA) Program by allowing third parties access to the Enbridge Gas bill for the purpose of billing and collecting charges on behalf of third parties. These third parties are charged a fee for each bill that Enbridge Gas delivers.

28. The OBA Program in the Union rate zones is not presented in other revenue and is treated as a recovery to DSM O&M expenses, which aligns with Union's 2015-2020 DSM Plan Application[4].

29. Open bill revenue for the EGD rate zone, as shown in Table 1, represents the net ratepayer benefit amount. The net ratepayer benefit amount is calculated as gross open bill revenue, less open bill costs (calculated using OEB-approved costs), less the shareholder incentive. This has remained flat for the period of 2019 to 2023, with no revenue forecast in the 2024 Test Year.

30. Enbridge Gas plans to wind down the OBA Program as of October 31, 2024, which includes an optional 10-month extension period from December 31, 2023, to October 31, 2024. Enbridge Gas is proposing an extension of the existing financial terms of the OBA Program for the 10-month extension period, with one modification to credit all net revenues to ratepayers for 2024, rather than sharing the net revenues. Any net revenue related to OBA services will be recorded in the proposed

[4] EB-2015-0029.

Open Bill Extension Deferral Account for the 10-month extension period. Please see Exhibit 1, Tab 14, Schedule 4 for more information on the OBA Program and Exhibit 9, Tab 1, Schedule 3 for information on the new deferral account.

6. Mid Market Transactions

31. Mid market transactions consist of fees related to balancing service charges and transactional service transfers for DP, T-Service, ex-franchise, and in-franchise customers.

32. Mid market transactions fees have remained relatively flat from 2019 to 2021. The 2024 Test Year Forecast for mid market transactions is based on 3-year historical average. Mid market transactions are provided at Exhibit 8, Tab 4, Schedule 3 for bundled services.

7. Natural Gas Vehicle (NGV) Rental Revenue

33. The Natural Gas Vehicle (NGV) Program offered in the EGD rate zone currently consists of three components: compressed natural gas (CNG) refuelling facilities, NGV fuel cylinders and vehicle refuelling appliances (VRAs) and CNG tube trailers. These ancillary services are provided at Exhibit 1, Tab 14, Schedule 2.

34. NGV Program revenue is received from customers through contracts which contain leases and are reported under other revenue and other income. The presentation of the lease revenues is dependent on the lease classification (i.e. operating or sales-type lease). Operating lease type revenue is shown in line 8 of Table 1. Sales type lease revenue is shown in line 11 of Table 1.

35. Actual revenue from the NGV Program has been fairly consistent from 2019 to 2021. The 2023 Bridge Year and 2024 Test Year Forecast revenues for the NGV Program are based on the current contractual agreements in place.

8. Other Operating Revenue

36. Some of the components of other operating revenue include stale-dated cheques, third-party maintenance revenue, affiliate lease revenue, and miscellaneous immaterial one-time adjustments to revenue. Other operating revenue has been consistent from 2019 to 2021 and is forecasted to remain consistent from 2022 Estimate to 2024 Test Year.

37. Enbridge Gas receives revenues from affiliates related to operating leases of real estate assets. These revenues are immaterial and are recorded within other operating revenue.

9. Other Income

38. Other income is mainly composed of gains/losses on foreign exchange, gains/losses on sales of assets, and the sales-type lease income discussed above for the NGV Program.

39. The variance between 2019 to 2020 other income is largely driven by foreign exchange impacts.

40. The forecasted amounts for the 2022 Estimate to the 2024 Test Year represent sales-type lease income through the NGV Program.

Comparison of Other Revenue & Other Income - 2019 Actual & 2020 Actual

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2020 Actual Over/(Under) 2019 Actual
		(a)	(b)	(c) = (b-a)
	Other Revenue			
1	Late Payment Penalties	19.4	20.8	1.4
2	Account Opening Charges	12.4	9.8	(2.6)
3	Other Billing Revenue	4.1	3.0	(1.1)
4	Customer Billing Revenue	36.0	33.6	(2.3)
	Direct Purchase Administration Charges and			
5	Distributor Consolidated Billing	2.5	2.4	(0.1)
6	Open Bill Access Revenue	5.4	5.4	0.0
7	Mid Market Transactions	1.4	1.1	(0.3)
8	Rental Revenue - NGV Program	1.6	1.8	0.2
9	Other Operating Revenue	2.8	3.4	0.6
10	Total	49.6	47.7	(1.9)
	Other Income			
11	Other Income	(1.8)	4.5	6.3
12	Total Other Revenue & Other Income	47.8	52.2	4.4

Comparison of Other Revenue & Other Income - 2020 Actual & 2021 Actual

Line No.	Particulars ($ millions)	2020 Actual	2021 Actual	2021 Actual Over/(Under) 2020 Actual
		(a)	(b)	(c) = (b-a)
	Other Revenue			
1	Late Payment Penalties	20.8	19.9	(1.0)
2	Account Opening Charges	9.8	11.1	1.2
3	Other Billing Revenue	3.0	3.2	0.2
4	Customer Billing Revenue	33.6	34.1	0.5
5	Direct Purchase Administration Charges and Distributor Consolidated Billing	2.4	2.3	(0.1)
6	Open Bill Access Revenue	5.4	5.4	0.0
7	Mid Market Transactions	1.1	1.2	0.0
8	Rental Revenue - NGV Program	1.8	1.8	0.0
9	Other Operating Revenue	3.4	4.2	0.9
10	Total	47.7	49.1	1.4
	Other Income			
11	Other Income	4.5	0.9	(3.6)
12	Total Other Revenue & Other Income	52.2	50.0	(2.2)

Comparison of Other Revenue & Other Income - 2021 Actual & 2022 Estimate

Line No.	Particulars ($ millions)	2021 Actual	2022 Estimate	2022 Estimate Over/(Under) 2021 Actual
		(a)	(b)	(c) = (b-a)
	Other Revenue			
1	Late Payment Penalties	19.9	20.2	0.4
2	Account Opening Charges	11.1	15.1	4.0
3	Other Billing Revenue	3.2	10.8	7.6
4	Customer Billing Revenue	34.1	46.1	12.0
	Direct Purchase Administration Charges and			
5	Distributor Consolidated Billing	2.3	2.3	(0.1)
6	Open Bill Access Revenue	5.4	5.4	0.0
7	Mid Market Transactions	1.2	1.2	0.0
8	Rental Revenue - NGV Program	1.8	2.0	0.2
9	Other Operating Revenue	4.2	1.9	(2.3)
10	Total	49.1	58.9	9.9
	Other Income			
11	Other Income	0.9	1.0	0.1
12	Total Other Revenue & Other Income	50.0	60.0	10.0

Comparison of Other Revenue & Other Income - 2022 Estimate & 2023 Bridge Year

Line No.	Particulars ($ millions)	2022 Estimate	2023 Bridge Year	2023 Bridge Over/(Under) 2022 Estimate
		(a)	(b)	(c) = (b-a)
	Other Revenue			
1	Late Payment Penalties	20.2	25.3	5.1
2	Account Opening Charges	15.1	13.6	(1.5)
3	Other Billing Revenue	10.8	10.2	(0.7)
4	Customer Billing Revenue	46.1	49.1	2.9
	Direct Purchase Administration Charges and			
5	Distributor Consolidated Billing	2.3	2.2	(0.1)
6	Open Bill Access Revenue	5.4	5.4	0.0
7	Mid Market Transactions	1.2	1.2	(0.0)
8	Rental Revenue - NGV Program	2.0	1.9	(0.1)
9	Other Operating Revenue	1.9	1.7	(0.3)
10	Total	58.9	61.4	2.5
	Other Income			
11	Other Income	1.0	1.8	0.8
12	Total Other Revenue & Other Income	60.0	63.2	3.3

Comparison of Other Revenue & Other Income - 2023 Bridge Year & 2024 Test Year

Line No.	Particulars ($ millions)	2023 Bridge Year (a)	2024 Test Year (b)	2024 Test Over/(Under) 2023 Bridge (c) = (b-a)
	Other Revenue			
1	Late Payment Penalties	25.3	26.9	1.6
2	Account Opening Charges	13.6	13.9	0.3
3	Other Billing Revenue	10.2	11.0	0.9
4	Customer Billing Revenue	49.1	51.8	2.8
	Direct Purchase Administration Charges and			
5	Distributor Consolidated Billing	2.2	5.4	3.2
6	Open Bill Access Revenue	5.4	0.0	(5.4)
7	Mid Market Transactions	1.2	1.2	0.0
8	Rental Revenue - NGV Program	1.9	1.9	0.0
9	Other Operating Revenue	1.7	1.7	0.0
10	Total	61.4	61.9	0.5
	Other Income			
11	Other Income	1.8	2.4	0.5
12	Total Other Revenue & Other Income	63.2	64.3	1.0

HEAT VALUE HARMONIZATION

PAOLO MASTRONARDI, MANAGER GAS MANAGEMENT SERVICES

1. The purpose of this evidence is to request OEB approval of the harmonized heat value methodology. As both heat value processes between the EGD and Union rate zones are similar, there was an opportunity to harmonize the number of heat values used and to simplify the process.

2. Enbridge Gas is proposing the following changes:
    a) For the Monthly Heat Value (MHV) calculation and process, the EGD rate zone will move to two unique MHVs for each of the TransCanada delivery areas; the Enbridge Central delivery area (ECDA) and Enbridge Eastern delivery area (EEDA).[1] This approach is similar to the MHV process for Union rate zones.
    b) For the Annual Heat Value (AHV) calculation and process, Enbridge Gas will move from three to two AHVs called the Enbridge Gas North heat value and Enbridge Gas South heat value. The Enbridge Gas North heat value is a combination of the Union North rate zone and the EEDA in the EGD rate zone and the Enbridge Gas South heat value is a combination of Union South rate zone and the ECDA in the EGD rate zone. The AHV will be calculated yearly based on calendar year (January to December) using measured volumes for the previous 12 months effective April 1 of each year, consistent with the approach for the Union rate zones.
    c) For existing Union South T-Service and Rate M7 customers, Enbridge Gas proposes to eliminate third-party energy sampling and install three

[1] TransCanada delivery area abbreviations for EGD rate zone; Enbridge Central Delivery Area (ECDA), Enbridge Eastern Delivery Area (EEDA).

chromatographs in required locations to work in alignment with existing live daily gas chromatograph data to calculate their MHV.

3. For the 2024 Test Year, Enbridge Gas used the proposed harmonized AHV of 38.86 GJ/10^3m^3 for the Enbridge Gas North heat value and 39.08 GJ/10^3m^3 for the Enbridge Gas South heat value.

4. This evidence is organized as follows:
    1. Monthly and Annual Heat Value Purpose
    2. Current Calculation and Process
    3. Calculation Alternatives Reviewed
    4. Harmonized Calculation and Process
    5. Implementation

1. Monthly and Annual Heat Value Purpose

5. The MHV and AHV are used by Enbridge Gas in the EGD and Union rate zones to convert volumes (10^3m^3) to energy (GJ). The natural gas industry continues to measure natural gas transactions (contracting, gas supply, trading, nominations, etc.) in energy[2] units. However, Enbridge Gas measures consumption in volumetric units in meters cubed (m^3). Both the MHV and AHV processes use actual measurement data to complete the heat value calculation.

6. The MHV is an average monthly value used for billing purposes to calculate and track direct purchase (DP) balancing and storage activity for customers taking DP services (bundled, semi-unbundled and unbundled services), including customers'

[2] The standard energy measurement is GJ – gigajoules, Dth – Dekatherms. MMBtu – Metric Million British Thermal Unit.

Banked Gas Accounts (BGA) and semi-unbundled and unbundled storage accounts.

7. The AHV is an average annual value used to establish forecasts for storage and transmission planning, setting daily contract quantities (DCQ) for DP contracts, budgeting for gas costs, and ratemaking purposes.

2. Current Calculation and Process

8. This section of evidence discusses the current processes used to calculate the MHV and AHV for the EGD and Union rate zones.

2.1. EGD Rate Zone

Monthly Heat Value

9. The MHV is updated monthly using measured volumes (receipt and deliveries) primarily at the ECDA, EEDA, Parkway and Tecumseh Storage to calculate an average blended monthly heat value. The calculation results in one combined heat value for the ECDA and EEDA. On a monthly basis, the updated heat value is used to calculate balancing activity for bundled DP and unbundled customers in the billing process for the EGD rate zone.

Annual Heat Value

10. For the EGD rate zone, one blended heat value is calculated combining measured ECDA and EEDA volumes. The AHV is updated annually using the MHV for the previous 12 months ending March 31 and updated effective July 1 of each year.

2.2. Union Rate Zones

Monthly Heat Value

11. The MHV is updated monthly using TransCanada delivery area measurement, Enbridge Gas measurement at Dawn (Dawn measurement), or a combination of both, dependent on whether a DP customer is located in the Union North rate zone or Union South rate zone.

12. For the Union North rate zone, six unique heat values are calculated for each of the TransCanada delivery areas (MDA, SSMDA, WDA, NDA, NCDA, EDA)[3], which are used to determine customer balancing activity and position. The unique heat values at each delivery location allow closer tracking to the actual heat value measured at the delivery location and provide better data for calculating customer storage positions. For example, to calculate DP customer BGA positions in the Union EDA, a TransCanada EDA MHV would be used to convert their consumption from volume (10^3m^3) to energy (GJ).

13. For the Union South rate zone, one MHV is calculated that combines the Union Central delivery area (UCDA) measurement and Dawn measurement. Unlike the Union North rate zone, unique heat values are not calculated by customer location in the Union South rate zone due to the interconnectivity of the Dawn Hub and the Dawn Parkway System. Within the Union South rate zone, gas is received from a variety of producing regions and pipeline interconnects, such that Dawn measurement primarily includes volumes received and delivered at Kirkwall, Parkway, Vector Pipeline, Great Lakes Transmission, ANR at St Clair, Michcon at St. Clair, Bluewater Pipeline at St. Clair, Panhandle Eastern Pipeline Company at Ojibway, and Dawn Storage.

[3] TransCanada delivery area abbreviations for Union rate zones; Manitoba Delivery Area (MDA), Sault Sainte Marie Delivery Area (SSMDA), Western Delivery Area (WDA), Northern Delivery Area (NDA), North Central Delivery Area (NCDA), Eastern Delivery Area (EDA).

14. For the Union South rate zone, an alternate process is used to calculate the MHV for the large contract rate customers (T-Service[4] and Rate M7). These customers use energy sampling data at individual customer locations where energy sampling equipment is installed.[5] This process uses a third-party service to test and process over 50 energy samples each month. Subsequently, the Company gathers the samples, validates the results, and summarizes prior to using the data. These heat values are inputs to the nomination and billing systems to calculate T-Service and Rate M7 storage activity and balances in energy. This process creates a two-month heat value lag between the energy sampling and the billing period. For example, April monthly customer consumption data (billing period) would use a February heat value derived from the energy samples to calculate the storage activity and balances. On an annual basis, a heat value true-up is conducted to account for variances between the heat value used for billing purposes and the heat value derived from energy samples. Any variances flow to the customer's BGA or storage accounts. Historically, the annual true-up results in a minor adjustment to customer BGA or storage accounts. For the period of April 2020 to March 2021, the true-up resulted in an adjustment of less than 1% of customer's BGA or storage accounts.

Annual Heat Value

15. Two AHVs (Union North heat value and Union South heat value) are calculated for each of the Union rate zones and updated annually using the previous 12 months of measurement ending December 31, effective April 1 of each year. The Union North heat value is made up of TransCanada measurement for each of the six delivery areas and the Union South heat value is made up of the UCDA and Dawn measurement, consistent with the MHV described at paragraph 12. Using two

[4] Union South T-Service is offered under Rate T1, Rate T2 and Rate T3.
[5] Energy sampling equipment may cover multiple customer locations. If a customer's geographic area is not covered by existing energy sampling equipment, the equipment will be installed.

AHVs allows for the capture of the differences in gas flow heat content to the different geographic areas. Union North rate zone customer demands are primarily met by the TransCanada Pipeline System and Union South rate zone customer demands are met from a variety of producing regions and interconnecting pipelines at the Dawn Hub.

3. Calculation Alternatives Reviewed

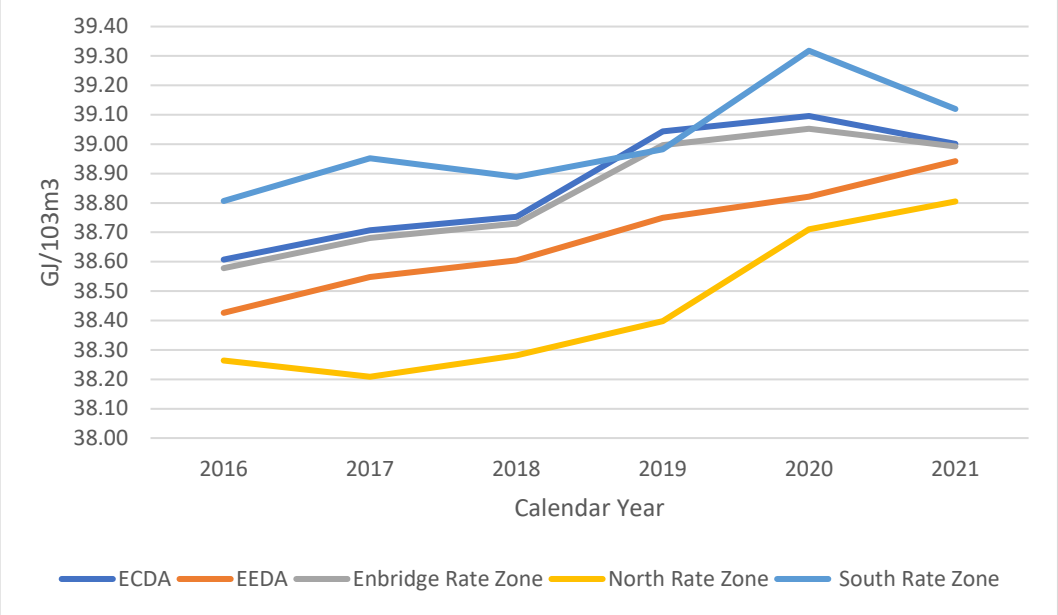
16. Based on the review of current processes between the EGD and the Union rate zones, the calculations and processes are similar with an opportunity to harmonize. Prior to recommending a harmonized solution, three alternatives were reviewed to calculate the AHV. The three alternatives include:
    a) Alternative 1 - Three heat values (status quo) - EGD rate zone (ECDA and EEDA combined), Union North rate zone, and Union South rate zone ;
    b) Alternative 2 - Two heat values - A north heat value (combination of the EEDA and the Union North rate zone), and a south heat value (combination of the ECDA and the Union South rate zone); and
    c) Alternative 3 - One heat value – EGD and Union rate zones combined regardless of delivery location.

17. For the MHV calculation, alternatives were not considered since the current process of having unique heat values for each delivery area is relevant for billing purposes. Having unique heat values for each delivery area tracks closer to the actual heat value measured at the customer delivery locations and provides better data for billing purposes.

18. The AHV alternatives reviewed focused on two evaluation criteria: 1) simplify/harmonize and 2) minimize impact to system users and customers. To

further assist with the evaluation, six years of historical annual heat values (2016 to 2021) were reviewed to understand the historical heat value changes and relationships between the EGD (ECDA and EEDA), Union North, and Union South rate zones. Figure 1 illustrates that the ECDA and the Union South rate zone AHV are closely related, the Union North rate zone has the lowest historical heat value since the customer demands are primarily met by the TransCanada Pipeline System and the EEDA sits in the middle of the Union North and Union South rate zone.

Figure 1: 2016 to 2021 Annual Heat Values



19. For the alternatives evaluated, Enbridge Gas decided to move the AHV calculation to a calendar year since it best fits the timing of the budget and forecast process. Please see Table 1 for the heat values associated with each alternative evaluated, which were calculated using 2021 actual measurement data. Please see

Attachment 1 for the annual measurement data by rate zone used to derive the heat values below.

Table 1
Heat Value Comparison

Line No.	Alternatives ($GJ/10^3m^3$)	EGD Rate Zone	Union North Rate Zone	Union South Rate Zone
		(a)	(b)	(c)
1	Alternative 1 – Three Heat Values (Status Quo)	38.99	38.81	39.12
2	Alternative 2 – Two Heat Values	39.08	38.86	39.08
3	Alternative 3 – One Heat Value	39.04	39.04	39.04

20. Table 2 provides a heat value impact analysis where the heat values from Table 1 are used to compare Alternative 1 (status quo) to Alternative 2 and Alternative 3 on a percentage basis. For example, the heat value increases by 0.59% for the Union North rate zone in Alternative 3 compared to Alternative 1 (Table 2, column (b), line 3).

Table 2
Heat Value Percent Change to Alternative 1 (Status Quo)

Line No.	Alternatives	EGD Rate Zone	Union North Rate Zone	Union South Rate Zone
		(a)	(b)	(c)
1	Alternative 1 – Three Heat Values (status quo)	-	-	-
2	Alternative 2 – Two Heat Values	0.23%	0.13%	(0.10%)
3	Alternative 3 – One Heat Value	0.13%	0.59%	(0.20%)

4. Harmonized Calculation and Process

21. For the harmonized AHV process, Enbridge Gas is proposing to use Alternative 2, which is based on two heat values, the Enbridge Gas North heat value and the Enbridge Gas South heat value. In the first quarter of each year, Enbridge Gas will complete the calculation for each AHV based on a calendar year (January to December) using the previous 12 months of measurement, effective April 1st of each year.

22. The Enbridge Gas North heat value (38.86 GJ/10^3m^3) is a combination of the EEDA in the EGD rate zone and the Union North rate zone measured activity. The derivation of the Enbridge Gas North heat value is provided at Attachment 1.

23. The Enbridge Gas South heat value (39.08 GJ/10^3m^3) is a combination of the ECDA in the EGD rate zone and the Union South rate zone measured activity. The derivation of the Enbridge Gas South heat value is provided at Attachment 1.

24. Based on the evaluation criteria, this approach provides an appropriate balance in simplifying the number of heat values and the calculations required, as well as minimizing system user and customer impacts. Continuing with Alternative 1 – Three Heat Values (status quo) does not harmonize and simplify the heat value calculation process. Based on Figure 1, there is an opportunity in combining rate zones and delivery areas. With Alternative 3 – One Heat Value, one heat value for all delivery areas has the largest change to system users and customers as seen in Table 2. As well, one heat value does not capture any differences in gas flow heat content between delivery areas.

25. For the MHV calculation and process, Enbridge Gas will maintain unique heat values for each delivery area. Since the MHV is used for billing purposes, precision

by delivery area will allow for DP customers (bundled and unbundled[6]) to track closer to the actual heat value measured at the delivery location. For the Union rate zones, this process is currently followed and will not require any change. For the EGD rate zone, the ECDA and EEDA measurement data will not be combined for calculation purposes such that the MHV for each delivery area will be calculated separately, creating two unique heat values for the EGD rate zone, similar to Union rate zones.

26. For existing Union South T-Service and Rate M7 customers, Enbridge Gas proposes to eliminate third-party energy sampling and install three chromatographs in required locations to work in alignment with existing live daily gas chromatograph data. The Union South T-Service and Rate M7 customers will be mapped to a live chromatograph, or blend of live chromatographs to calculate the MHV. This heat value proposal simplifies the process for the customer and Enbridge Gas, eliminating the reliance on a third-party process, the two-month data lag, and the annual reconciliation process, as well as maintaining required data integrity.

5. Implementation

27. Enbridge Gas proposes to implement this approach for MHV as of April 1, 2026, since it is impacted by the services harmonization implementation timing and enhancements to the billing and nomination systems. Post April 1, 2026, Enbridge Gas will calculate unique MHVs for the ECDA and EEDA. Please see Exhibit 8, Tab 4, Schedule 1 for an overview of the service harmonization proposal.

28. For the harmonized AHV process, Enbridge Gas proposes to implement the Enbridge Gas North and South heat values, effective January 1, 2024, subject to

[6] Unbundled DP services includes the unbundled service in the EGD rate zone and T-Service in the Union North rate zone.

OEB approval as part of this Application. At the beginning of 2024, Enbridge Gas will gather the previous 12 months of measurement data by delivery area and calculate the harmonized AHV which will be effective April 1, 2024.

29. Existing Union South T-Service and Rate M7 customers will have chromatographs installed to use live daily chromatograph data. Enbridge Gas will begin transitioning to the proposed process upon OEB approval. Enbridge Gas will complete customer outreach to communicate the change in process and a proposed transition timeline to the impacted customers.

Annual Measurement Data By Rate Zones Used For Heat Value Calculation

Line No.	Alternatives	EGD Rate Zone			Union North Rate Zone			Union South Rate Zone		
		Annual Measurement (1)		Heat Value	Annual Measurement (1)		Heat Value	Annual Measurement (1)		Heat Value
		(GJ)	(10^3m^3)	($GJ/10^3m^3$)	(GJ)	(10^3m^3)	($GJ/10^3m^3$)	(GJ)	(10^3m^3)	($GJ/10^3m^3$)
		(a)	(b)	(c) = (a/b)	(d)	(e)	(f) = (d/e)	(g)	(h)	(i) = (g/h)
1	Alternative 1 – Three Heat Values (Status Quo)	454,974,422	11,668,384	38.99	120,901,182	3,115,609	38.81	657,854,466	16,816,524	39.12
2	Alternative 2 – Two Heat Values	1,041,416,231	26,651,086	39.08	192,313,839	4,949,431	38.86	1,041,416,231	26,651,086	39.08
3	Alternative 3 – One Heat Value	1,233,730,070	31,600,517	39.04	1,233,730,070	31,600,517	39.04	1,233,730,070	31,600,517	39.04

Note:

(1) Based on 2021 actual measurement data.