David I. Poch Barrister tel. (613) 264-0055 fax (613) 264-2878

19 January 2022

Nancy Marconi, Registrar
Ontario Energy Board

VIA RESS AND EMAIL

Dear Ms Marconi:

Re: EB-2021-0002 – EGI 2022-2027 DSM – GEC/ED IRRs to CCC Interrogatories

Please find interrogatory responses filed by GEC-ED in response to IRs from CCC on the evidence of Energy Futures Group.

Sincerely,

Cc: All parties

1649 Old Brooke Road, Maberly, Ontario K0H 2B0 e-mail: dpoch@eelaw.ca

GEC/ED Responses of Energy Futures Group to CCC Interrogatories

10-CCC-1-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 8
The annual average reduction in natural gas use is projected to be 111.1 million m3 over the five-year plan. This is lower than the average savings captured from 2017-2019. Why is this the case given budget levels are projected to increase? From Mr. Neme and Ms Sherwood's perspective, how can Enbridge most effectively increase its savings over the plan term while adhering to the OEB's stated guideline of doing so with modest budget increases in the near term (set out by the OEB in its December 1, 2020 letter).

Response

As noted in Figure 2 of the EFG report, when adjusted for inflation, the level of spending from 2023-2027 does not exceed 2019 spending levels until 2026. In other words, Enbridge's proposed spending levels do not reflect even very modest increases relative to 2017-2019 spending. Figure 1 of the EFG report shows that the savings is projected to ramp up similar to the ramp up of funding in Figure 2. Although EFG's report did not perform an exhaustive review of Enbridge's programs some other factors that may be impacting the lower savings, outside of budget, include the focus on pilot programs and the proposed measures mix, including rebates for furnaces with an efficiency rating that is only marginally above baseline. As recommended in EFG's report, savings can be increased by moving funds from efforts such as the gas heat pump pilot and Building Beyond Code Program to increase the number of weatherization measures installed per home and increase the number of homes that are weatherized. Effectively leveraging the Federal Greener Homes program should also improve results.

In addition, as outlined in the EFG report, the factors set out in the OEB's letter of December 1, 2020 would appear to call for significantly greater savings levels and investment levels. For further details on ways to increase savings levels, see our response to 6.OEB.Staff.1.GEC/ED.1.

10-CCC-2-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 10
The evidence states that Enbridge's savings rates, both historically and as planned for 2023 to 2027, are substantially lower than those of leading gas DSM utilities. Why are Enbridge's savings rates substantially lower? Specifically, how could Enbridge improve its savings rates for the period 2023 to 2027 to bring them more in line with comparable utilities?

Response

EFG's report did not investigate the reasoning behind why Enbridge's proposed portfolio is forecast to produce lower levels of savings than leading gas DSM utilities. Part of the explanation is likely to be lower spending levels and associated lower financial incentive levels to induce customers to make efficiency investments. However, we have not assessed the extent to which that is the case.

Please see Ex.6.OEB.Staff.2.GEC/ED.1, which summarizes ways in which Enbridge's savings could be increased.

10-CCC-3-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 14
The evidence refers to an American Council for an Energy Efficient Economy (ACEEE) analysis that concluded that both electric and gas efficiency potential studies "typically use a generally conservative approach which means that there is a great deal of additional cost-effective savings available beyond what is identified." In this context how does the ACEEE define cost-effectiveness?

Response

As duplicated below, pages 18-20 of the ACEEE Report discuss cost-effectiveness in context of the referenced report.

"Utility regulators and other policymakers typically require that energy efficiency programs and other demand-side investments are shown to be cost effective before they are approved. This policy requirement naturally extends to the realm of the potential study. Well developed potential studies should be certain to evaluate cost effectiveness consistent with regulatory policy and be transparent about the types of tests used in determining cost effectiveness. The majority of studies we reviewed use the TRC test as the primary evaluation for cost effectiveness at both the measure and program level, although many studies include other cost-effectiveness tests to provide additional perspective. These tests include the Participant Cost Test (PCT), the RIM test, the Program Administrator Cost (PAC) test (also referred to as the Utility Cost Test, or UCT), and the SCT.

In a potential study, cost effectiveness is generally estimated at two points. The first is within the economic potential analysis, at the measure level. This is usually accomplished via the TRC test, to determine which energy efficiency measures should be included in the achievable potential analysis. In other words, the cost effectiveness of a measure is screened by comparing a customer's costs with a utility's avoided cost of supply. If the levelized cost of saved energy of a measure is less than a utility's avoided cost of supply, then it makes economic sense for a utility to purchase that marginal unit of energy efficiency instead of the relatively more expensive supply alternative. It is important to note that when the TRC test is applied at the measure level, it usually does not include program administrative costs, since these are difficult to disaggregate at the measure level. The assumptions behind a utility's avoided costs therefore have major implications for the types of measures that pass cost-effectiveness screening in the economic potential analysis and, ultimately, the quantity of achievable savings potential estimated in the study. Data on avoided costs are infrequently reported, however, both in terms of the values and the methodologies. Publicly available data on measure costs and savings, on the other hand, are much more pervasive and transparent.

The second point at which cost effectiveness is measured is at the program or portfolio level, utilizing savings and costs results from the achievable potential analysis. Regulatory authorities are generally more interested in the cost effectiveness of an overall program or portfolio of programs

than in measure-level cost effectiveness. So it is critical that cost effectiveness tests are applied correctly. A recent Synapse Energy Economics study, Best Practices in Energy Efficiency Program Screening, discusses the best-practice application of the various cost tests within the context of state regulatory authorities. The study notes that analysts must "ensure that each test is being applied in a way that achieves its underlying objectives, is internally consistent, accounts for the full value of energy efficiency resources, and uses appropriate planning methodologies and assumptions" (Woolf et al. 2012). The study also notes that there is a great deal of variation in how these tests are applied across states. But where this is most glaring is in the fact that most states fail to account for the full value of energy efficiency resources when evaluating the cost effectiveness of programs. Our review of the 45 potential studies revealed the same trend for potential studies. All but a handful of studies fail to account for the full value of energy efficiency—an issue that we discuss in greater detail below.

Program cost effectiveness is evaluated in the achievable potential analysis. This is because achievable potential scenarios are intended to reflect actual program and portfolio potential by taking into account market and other barriers to energy efficiency adoption. However, program cost effectiveness in the achievable potential analysis is not defined by levelized measure costs as it is in the economic potential analysis. Rather, the focus is on the overall benefits and costs, such as to the utility, customer, or both, since achievable potential is intended to represent utility-territory or statewide potential. The TRC test is, again, the primary test used to evaluate program cost effectiveness in potential studies. However the PAC test and PCT are also regularly included, and the RIM and PCT to a lesser degree. When the TRC test is applied at the program or portfolio level, program administrative costs are included. These costs are not included when the TRC test is applied at the measure level within the economic potential analysis. We expound on the various cost-effectiveness tests below."

Neubauer, Max, Cracking the TEAPOT: Technical, Economic and Achievable Energy Efficiency Potential Studies, ACEEE Report U1407, August 2014, p. 18-20, (https://www.aceee.org/sites/default/files/publications/researchreports/u1407.pdf).

10-CCC-4-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 16
The evidence states that interpretations of whether or not rate impacts from DSM are "undue" should be contextual. "For example, all other things being equal, a 3% rate impact associated with DSM programs that provide $500 million in economic net benefits should be (and likely would be) seen as more acceptable than a 3% rate impact associated with DSM programs that provide only $50 million in economic net benefits." Please explain what is meant by "economic net benefits" in this context.

Response

By economic net benefits we mean the net present value (NPV) of benefits minus the NPV of costs under the TRC+ cost-effectiveness test used in Ontario for gas DSM.

10-CCC-5-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 17
Please explain how the amounts found in Table 3 - line 6 – "Downward Rate Pressure from Avoided T&D, Price Suppression" were derived.

Response

The amounts found in Table 3 – line 6 are calculated as 40% of the annual maximum budget, adjusted for inflation, which is provided in Table 3 – line 4. The 40% accounts for the portion of benefits that reduce costs for all customers and is based upon the estimation provided in Mr. Neme's testimony on Enbridge and Union Gas' 2015-2020 DSM plans.

8-CCC-6-GEC/ED.1
Re: Ex. L.GEC/ED/p. 19
The evidence states, "The Board should consider adopting an adjustment that formulaically ties the maximum shareholder incentive to the level of gas savings achieved. This would mitigate against the current perverse incentive for Enbridge to propose plans with relatively low savings targets that are easy to beat." Has Mr. Neme or Ms Sherwood assessed the reasonableness of Enbridge's proposed targets? If so, can they be characterized by "relatively low savings targets that are easy to beat?

Response

The targets can be characterized as relatively low because the overall portfolio will achieve less gas savings than was achieved in previous years. The targets can also be characterized as relatively low because the overall portfolio does not come anywhere close to achieving the targets in the Environment Plan.

However, we have not done the specific analysis to calculate either (1) the exact degree to which Enbridge could achieve more for the budget they have proposed or less; or (2) the budget that would be required to achieve substantially greater levels of savings. In other words, we have not calculated the gap between the spending/savings ratio that Enbridge proposes and that of an optimal program. Doing so would be potentially duplicative of what we understood to be part of the focus of Board Staff's evidence.

The comment about perverse incentives was made primarily to show that Enbridge does not have an incentive to increase the overall portfolio savings and dollars. The problem is that the overall incentive amount does not vary based on the ambitiousness of the plans. This disincentive does appear to be manifest in the overall savings levels proposed by the Company because they are lower than what it has achieved in previous years despite clear direction to increase savings.

8-CCC-7(a)-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 21
Enbridge has proposed that it be able to earn as much as $21 to $23 million per year in shareholder incentives for its efficiency programs with the amount actually earned a function of its success relative to a number of different performance metrics. How does that level of pay-out compare to incentives for similar sized utilities also pursuing DSM?

Response:

EFG has not performed the kind of research and comparative analysis requested. That said, we note that Enbridge's maximum shareholder incentives range from 13% of its proposed DSM spending (in 2027) to 15% (in 2023). As noted in the report by Optimal Energy on behalf of Staff in this proceeding, shareholder incentives range quite widely from jurisdiction – from as low as 3% to as high as 40% of program budgets.[1]

Note that any comparison of Enbridge's potential shareholder incentive earnings should consider not only the maximum incentive, but the level of achievement necessary to earn the maximum incentive, which has historically been, and Enbridge has proposed be maintained, at 150% of goals. We are not aware of other jurisdictions that require that level of exceedance of goals to earn the full incentive.

[1] Exh. L.OEB.Staff.1, p. 20.

8-CCC-7(b)-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 23
The evidence states that in Michigan, the principal shareholder performance metric for both electric and gas utilities is focused on lifetime savings. Please provide a detailed description of the performance metrics used in Michigan. Please provide an example of the annual level of incentives paid out relative to the annual budget.

Response

DTE's most recently approved shareholder incentive mechanism was for program years 2020 and 2021. A settlement agreement for 2022 and 2023 is currently pending approval before the Michigan Public Service Commission.

The mechanism for gas efficiency programs for 2020 and 2021 has a minimum requirement expressed in terms of first year savings. The Company cannot earn any incentive if it does not achieve at least 0.75% savings. If it achieves 0.75% first year savings, it can earn up to 15% of spending depending on its performance relative to other performance metrics. If it achieves 1.00% first year savings, it can earn up to 20% of spending depending on its performance on other metrics. There are three other metrics:

- Lifetime savings with 80% weight
- Low income spending with 10% weight
- Low income lifetime savings with 15% weight

The weights add up to a little more than 100% so that the Company can earn its maximum incentive without having to achieve the pinnacle of performance on all metrics (but cannot earn it unless it achieves at least respectable performance on every metric). Generally speaking, the top end of performance for each of the three metrics is equal to the Company's planned level of savings and spending (i.e., the 100% target). A copy of that performance metric table is provided below.

	Legislative First Year Savings Tiers		Lifetime Savings (MCF)		Low-Income Spend ($1,000)		Low-Income Lifetime Savings (MCF)	
			Minimum (100%)		Minimum (100%)		Minimum (100%)	
			YR 2020	17,819,774	YR 2020	$7,718	YR 2020	811,502
			YR 2021	17,839,283	YR 2021	$7,719	YR 2021	811,502
			Weight	80%	Weight	10%	Weight	15%
	% Savings	% Incentive	% Savings	% Incentive	% Spend	% Incentive	% Spend	% Incentive
Tier 1	**0.750%**	**15.00%**	100.0%	12.00%	100.0%	1.00%	100.0%	2.00%
	0.755%	15.10%	100.7%	12.08%	100.7%	1.02%	100.7%	2.02%
	0.760%	15.20%	101.3%	12.16%	101.3%	1.04%	101.3%	2.04%
	0.765%	15.30%	102.0%	12.24%	102.0%	1.06%	102.0%	2.06%
	0.770%	15.40%	102.7%	12.32%	102.7%	1.08%	102.7%	2.08%
	0.775%	15.50%	103.3%	12.40%	103.3%	1.10%	103.3%	2.10%
	0.780%	15.60%	104.0%	12.48%	104.0%	1.12%	104.0%	2.12%
	0.785%	15.70%	104.7%	12.56%	104.7%	1.14%	104.7%	2.14%
	0.790%	15.80%	105.3%	12.64%	105.3%	1.16%	105.3%	2.16%
	0.795%	15.90%	106.0%	12.72%	106.0%	1.18%	106.0%	2.18%
	0.800%	16.00%	106.7%	12.80%	106.7%	1.20%	106.7%	2.20%
	0.805%	16.10%	107.3%	12.88%	107.3%	1.22%	107.3%	2.22%
	0.810%	16.20%	108.0%	12.96%	108.0%	1.24%	108.0%	2.24%
	0.815%	16.30%	108.7%	13.04%	108.7%	1.26%	108.7%	2.26%
	0.820%	16.40%	109.3%	13.12%	109.3%	1.28%	109.3%	2.28%
	0.825%	16.50%	110.0%	13.20%	110.0%	1.30%	110.0%	2.30%
	0.830%	16.60%	110.7%	13.28%	110.7%	1.32%	110.7%	2.32%
	0.835%	16.70%	111.3%	13.36%	111.3%	1.34%	111.3%	2.34%
	0.840%	16.80%	112.0%	13.44%	112.0%	1.36%	112.0%	2.36%
	0.845%	16.90%	112.7%	13.52%	112.7%	1.38%	112.7%	2.38%
	0.850%	17.00%	113.3%	13.60%	113.3%	1.40%	113.3%	2.40%
	0.855%	17.10%	114.0%	13.68%	114.0%	1.42%	114.0%	2.42%
	0.860%	17.20%	114.7%	13.76%	114.7%	1.44%	114.7%	2.44%
	0.865%	17.30%	115.3%	13.84%	115.3%	1.46%	115.3%	2.46%
	0.870%	17.40%	116.0%	13.92%	116.0%	1.48%	116.0%	2.48%
Tier 2	**0.875%**	**17.50%**	116.7%	14.00%	116.7%	1.50%	116.7%	2.50%
	0.880%	17.60%	117.3%	14.08%	117.3%	1.52%	117.3%	2.52%
	0.885%	17.70%	118.0%	14.16%	118.0%	1.54%	118.0%	2.54%
	0.890%	17.80%	118.7%	14.24%	118.7%	1.56%	118.7%	2.56%
	0.895%	17.90%	119.3%	14.32%	119.3%	1.58%	119.3%	2.58%
	0.900%	18.00%	120.0%	14.40%	120.0%	1.60%	120.0%	2.60%
	0.905%	18.10%	120.7%	14.48%	120.7%	1.62%	120.7%	2.62%
	0.910%	18.20%	121.3%	14.56%	121.3%	1.64%	121.3%	2.64%
	0.915%	18.30%	122.0%	14.64%	122.0%	1.66%	122.0%	2.66%
	0.920%	18.40%	122.7%	14.72%	122.7%	1.68%	122.7%	2.68%
	0.925%	18.50%	123.3%	14.80%	123.3%	1.70%	123.3%	2.70%
	0.930%	18.60%	124.0%	14.88%	124.0%	1.72%	124.0%	2.72%
	0.935%	18.70%	124.7%	14.96%	124.7%	1.74%	124.7%	2.74%
	0.940%	18.80%	125.3%	15.04%	125.3%	1.76%	125.3%	2.76%
	0.945%	18.90%	126.0%	15.12%	126.0%	1.78%	126.0%	2.78%
	0.950%	19.00%	126.7%	15.20%	126.7%	1.80%	126.7%	2.80%
	0.955%	19.10%	127.3%	15.28%	127.3%	1.82%	127.3%	2.82%
	0.960%	19.20%	128.0%	15.36%	128.0%	1.84%	128.0%	2.84%
	0.965%	19.30%	128.7%	15.44%	128.7%	1.86%	128.7%	2.86%
	0.970%	19.40%	129.3%	15.52%	129.3%	1.88%	129.3%	2.88%
	0.975%	19.50%	130.0%	15.60%	130.0%	1.90%	130.0%	2.90%
	0.980%	19.60%	130.7%	15.68%	130.7%	1.92%	130.7%	2.92%
	0.985%	19.70%	131.3%	15.76%	131.3%	1.94%	131.3%	2.94%
	0.990%	19.80%	132.0%	15.84%	132.0%	1.96%	132.0%	2.96%
	0.995%	19.90%	132.7%	15.92%	132.7%	1.98%	132.7%	2.98%
Tier 3	**1.000%**	**20.00%**	133.3%	16.00%	133.3%	2.00%	133.3%	3.00%

Note: The financial incentive is calculated by adding up the percentages earned in each of the 2 metrics. The incentive earned is the lesser of the percentage earned for Legislative First Year Savings Tiers or the combined percentages earned in the 2 other metrics. The total incentive award can not exceed the award based on the Company's Legislative First Year Savings Tiers achieved. *The Low-Income Spend metric is contingent upon spending at least 85% of the Low-Income Multi-Family incentive dollars on non-direct-install measures.

8-CCC-8-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 18 and 24
The evidence states that, utility performance incentive structures and metrics: 1) should be tied to key policy objectives for DSM; and 2) should be designed to encourage and reward utility excellence in achieving those policy objectives. Please provide a list and description of shareholder incentive mechanisms in place in the US that Mr. Neme and Ms Sherwood view as effective, balanced and appropriately designed to encourage and reward utility excellence in achieving policy objectives.

Response:

We have not performed an exhaustive review of utility shareholder incentive mechanisms. We would not suggest that any existing shareholder incentive mechanism with which we are familiar is ideal.

We do think the Michigan mechanism described in response to 8-CCC-7-GEC/ED.1 has several good attributes. First, the maximum shareholder incentive that can be earned various by the level of savings achieved. Second, the mechanism has only a few performance metrics. Third, its principal metric focuses on lifetime gas savings. Fourth, it has secondary metrics related to low income programs, addressing an important equity goal. That said, it has several shortcomings. To begin with, we do not like the idea of a low income spending metric. It is far better to focus on outcomes than on spending. It would also be better to have a metric structure in which the utility cannot earn its maximum incentive unless it exceeds its goals (rather than just for meeting them).

8-CCC-9-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 33
The evidence states, "The OEB should consider whether the size of Enbridge's maximum shareholder incentive should be tied formulaically to the magnitude of savings – ideally lifetime savings – that it proposes in its plan (though actual incentive payments would obviously need to be tied to success relative to those plan goals). Such a formula should be established independent of what the Company proposed plan would achieve. That way Enbridge has an incentive to actually proposed higher levels of savings. This kind of approach could be put in place for the mid-term review as well as the next multi-year plan. It could even be adopted now if the Board agrees with our critique of the company's proposed savings goals and instructs the Company to increase them." Please fully describe how, from the perspective of Mr. Neme and Ms. Sherwood, Enbridge's shareholder incentive mechanism should be restructured.

Response:

See response to 6.OEB.Staff.2.GEC/ED.1 for an example.

10a-CCC-10-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 36
Mr. Neme and Ms Sherwood are recommending that Enbridge's proposed gas equipment rebates be removed from its proposed Whole Home retrofit program. They have estimated that eliminating such rebates would free up about $3.2 million for investment in more cost-effective building envelope measures. What building envelope measures are the most cost-effective? What incentive levels for those measures are the most appropriate?

Response

In our experience, the following building envelop measures are common cost-effective building envelop measures in retrofit programs: air sealing, attic insulation, wall insulation, and basement wall insulation. Air sealing and attic insulation are typically the most cost-effective of these. Though not part of the building envelope per se, we would also include improvements to heating distribution systems such as duct sealing, duct insulation and duct repair.

EFG's report did not address the level of incentives in the proposed Enbridge plan. We did not perform an exhaustive critical review of the proposed programs, rather we focused on a select handful of issues. Thus, we have not assembled the information requested.

10a-CCC-11-GEC/ED.1
Re: Ex. L.GEC/ED.1/p. 37
If Enbridge maintains its proposed budget levels, but increases its low-income spending, where should the corresponding budget reductions be made?

Response

If the proposed budget levels are maintained, the low income budget can be increased with the transition of funds currently allocated to programs that EFG recommends be excluded from Enbridge's energy efficiency portfolio. In particular, as indicated in Section IV of EFG's testimony, we recommend that residential Whole Home program not offer rebates for gas heating or water heating equipment; Building Beyond Codes new construction programs should be eliminated; and the development of gas heat pumps under the Low Carbon Transition program be rejected.

10a-CCC-12-GEC/ED.1
Ex. L.GEC/ED.1/pp. 38-39
Enbridge is proposing to spend $8.4 million in 2023 and $9.5 million in 2024 in its Building Beyond Code programs. Mr. Neme and Ms Sherwood recommend that this program either be removed from Enbridge's portfolio with the budget allocated to other programs or to a third party with the appropriate expertise and no bias towards one fuel. What would be the most cost-effective way to reallocate those amounts to other programs?

Response

First, it should be noted that the method of reallocating funds should not be strictly limited to the most cost-effective programs or measures. Otherwise, all additional funds would be directed exclusively to large industrial customers. We suggest that reallocation be performed with consideration of equity, savings yield (gas saved per program dollar) and cost-effectiveness. Through that lens, it would be appropriate to both increase low income program spending and to increase spending on commercial and industrial customers.

The above quote from our evidence above is subject to the proviso "if the proposed budget levels are maintained." That is an important proviso. Our report recommends increased investments in DSM as this will achieve the OEB's objectives, especially the objective of lowering customer energy bills. Reallocation of the Building Beyond Code funding would not be necessary if (1) the Board would support increases in total DSM plan budgets to the level necessary to optimize cost-effective investment in resource acquisition programs; and (2) it would be possible to allocate the Beyond Building Code funding to an independent third party that could approach the design and implementation of this kind of market transformation initiative in a fuel neutral way. This is described in more detail in our evidence. See also 6.OEB.Staff.1.GEC/ED.1 for a discussion of the timing considerations.