ONTARIO ENERGY BOARD

EB-2021-0002

IN THE MATTER OF the *Ontario Energy Board Act*, 1998, S. O. 1998, c. 15, Schedule B;

AND IN THE MATTER OF an application for a Multi-Year Natural Gas Demand Side Management Plan (2022 to 2027).

Submissions of Environmental Defence

Re Enbridge 2022 Demand Side Management Program

July 6, 2021

Elson Advocacy
Professional Corporation
1062 College Street, Lower Suite
Toronto, Ontario
M4H 1A9

Kent Elson, LSO# 57091I
Tel.: (416) 906-7305
Fax: (416) 763-5435
kent@elsonadvocacy.ca

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Overview

These submissions address Enbridge Gas Inc.'s request for interim approval of its 2022 DSM program and are provided pursuant to *Procedural Order #1*. DSM remains an excellent investment. Enbridge's proposed 2022 resource acquisition programs would generate **$535 million** in benefits, primarily in avoided energy costs.[1] One dollar invested will generate $3.32 in benefits (net of free riders and discounted to present value).[2] For the most effective programs, $1 will generate $17.28 in benefits.[3] This results in lower gas bills for customers.

Unfortunately, Enbridge's proposed 2022 plan would forgo excellent opportunities to lower gas bills through a more ambitious and effective plan. The proposed plan would achieve *fewer* gas savings and invest *less* in DSM programming than in previous years. It would also change the shareholder incentive structure to inappropriately incentivize short-lived efficiency measures over more lasting ones while adding a great deal of unnecessary complexity. It also includes new market transformation programming that requires further review.

Environmental Defence has significant concerns with the proposed 2022 plan. This includes concerns with elements that would be hard to undo in 2023 if the 2022 plan is implemented as proposed. Therefore, Environmental Defence respectfully requests that the OEB:

1. Set increased gas savings targets for 2022;

2. Direct Enbridge to provide alternative DSM plan options for 2023-2027 that would achieve greater gas savings and bill reductions for the OEB's consideration later in this process;

[1] EB-2021-0002, Exhibit D, Tab 1, Schedule 4, Page 2 (link).
[2] *Ibid*.
[3] *Ibid*.

3. Maintain all or most of the previous DSM framework for 2022 but with improved targets and investment levels for 2022;

4. Decline to approve Enbridge's new incentive structure for 2022; and

5. Defer any potential approval of the proposed new market transformation programming until further review, and redirect funding in the interim to achieve greater gas savings through resource acquisition programs.

Primary concerns

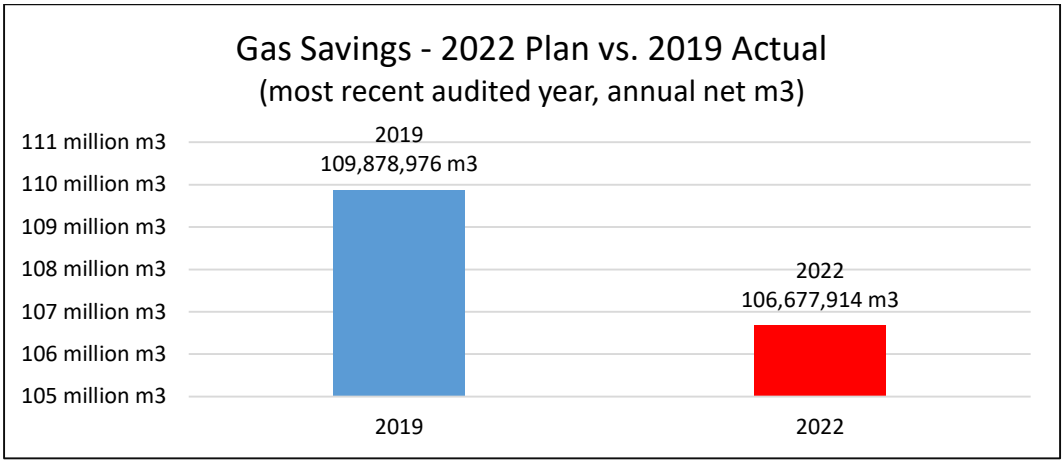
Environmental Defence's primary concerns with interim approval of the 2022 plan are that:

1. The gas savings and program investment levels are far too low;
2. The proposed incentive structure changes are regressive and counter-productive; and
3. The new market transformation programming is problematic.

The gas savings and investment levels are far too low

Enbridge's 2022 DSM plan proposes gas savings levels that are far too low. This is the result of a sub-optimal plan and insufficient investment levels. Energy bills could be lowered by a great deal if Enbridge were to increase investments and optimize its plan.

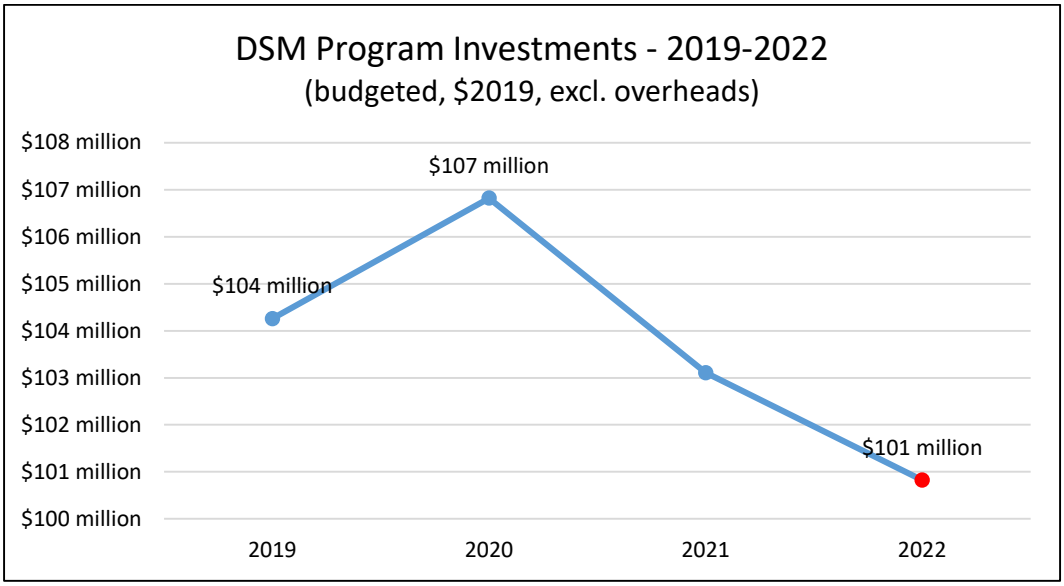
The 2022 plan should achieve far greater gas savings than previous DSM plans to align with OEB directions and government policy. Instead, the 2022 plan is *worse* than previous plans. For example, the 2022 plan will achieve *fewer* gas savings than the 2019 plan (the most recent audited year), as illustrated below.



[4]

[4] 2022 savings: Exhibit D, Tab 1, Schedule 3, Page 3; 2019 savings: OEB, *2019 Natural Gas Demand-Side Management Annual Verification Report*, December 3, 2020, pp. 207-208 (link); A comparison to 2020 and 2021 is impossible without interrogatory responses because available data is based on cumulative (i.e. lifetime) savings whereas Enbridge has switched to annual (i.e. first-year) gas savings as the basis of its targets. 2019 is the latest year with comparable annual savings figures because it is the latest year with an OEB verification report.

The 2022 plan should increase investments in DSM in accordance with OEB directions and government policy. Instead, the 2022 plan invests *less* in actual DSM programming in comparison to the 2021 and 2020 budgets. The decline in nominal dollars is small ($0.5 million for resource acquisition programs, per table 1 below). But the decline is substantial if inflation is accounted for, as illustrated here:



[5]

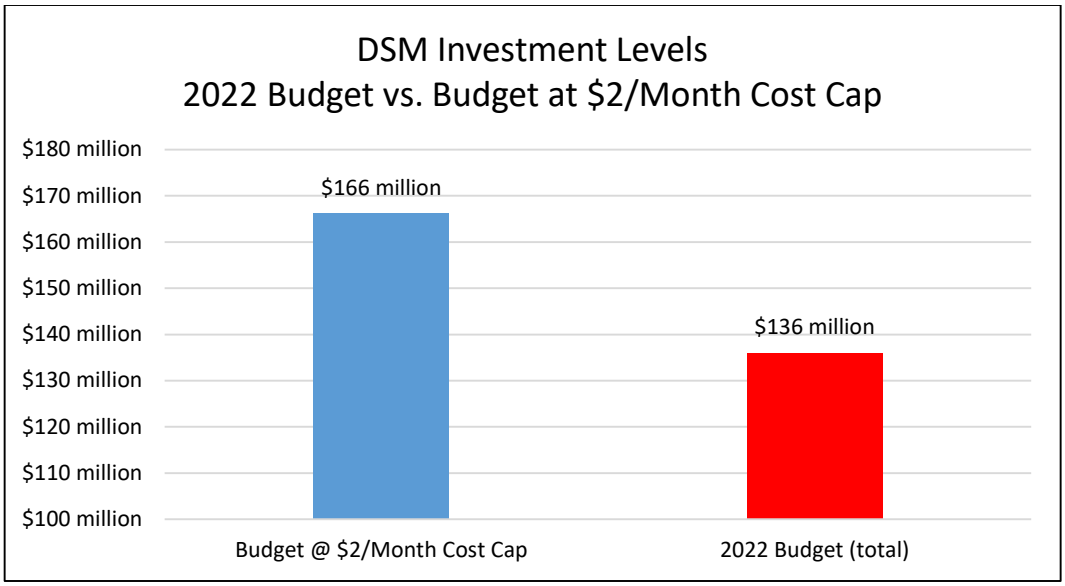
Table 1: DSM Investments - 2019-2022 Budgets[6]				
	2019	**2020**	**2021**	**2022**
Total programs (real $2019)	$104,256,599	$106,820,655	$103,108,448	$100,822,990
Total programs (nominal)	$104,256,599	$106,429,657	$106,429,657	$106,375,807
Resource acquisition (all but market transformation)	$96,241,520	$98,283,323	$98,283,322	$97,809,295
Market transformation	$8,015,079	$8,146,334	$8,146,335	$8,566,512
Total overhead	$26,933,947	$27,177,260	$27,177,260	$29,624,193
Program overhead	$16,105,783	$16,271,541	$16,271,541	$11,624,193
Portfolio overhead	$10,828,164	$10,905,719	$10,905,719	$18,000,000
Total budget	$131,190,546	$133,606,917	$133,606,917	$136,000,000
Overhead as % of Total	21%	20%	20%	22%

[5] See Table 1 and footnote 6.

[6] EB-2019-0271, Exhibit I.SEC.2, Attachment 1, Page 1 (link); EB-2021-0002, Exhibit D, Tab 1, Schedule 1, Page 10 (link); The $1.5 million Union Gas adaptive thermostat program approved in the mid-term review is included to ensure consistency with 2022, which includes that program. This $1.5 million is part of the DSM budget per the latest OEB verification report: OEB, *2019 Natural Gas Demand-Side Management Annual Verification Report*, December 3, 2020, p. 208 (link). Inflation per Bank of Canada (link) for 2020, 2021. 2022 estimated at 2% (5.22% from 2019).

This decline has four causes. First, the 2022 plan increases overheads as a percent of the overall budget (from ~20% in 2020/2021 to ~22% in 2022).[7] Second, when Enbridge increased the envelope for 2022 it disregarded the additional DSM investments approved in the DSM mid-term review.[8] Third, the investment levels have not been adjusted to account for inflation.[9] Fourth, and most importantly, the investment levels have not been set with appropriate regard to OEB directions, government policy, or the interests of consumers.

Enbridge has described its plan as a "modest" increase. It is not a modest increase. It is a decrease. Indeed, the overall budget does not even reach the $2/month cost guidance previously issued by the OEB – it is over $30 million lower, as illustrated below.



[10]

We have described the DSM program budgets as "investments" because this spending is intended to generate a net-positive return through lower gas consumption and lower gas bills. The goal is high savings levels and high net benefits for customers, which requires more to be invested. The proposed 2022 investment levels are far too low because they leave such a large quantity of net energy bill savings on the table.

This is particularly problematic because the 2023-2027 savings levels will depend on the 2022 levels. If 2022 levels decline or remain stagnant, it will be more challenging to ramp up in 2023. Also, according to Enbridge's plan, the 2023-2027 levels hinge on the 2022 levels through the Target Adjustment Mechanism and through Enbridge's budget design.[11] As detailed starting on

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[7] See Table 1 above.
[8] Report of the Ontario Energy Board, *Mid-Term Review of the Demand Side Management (DSM) Framework for Natural Gas Distributors* (2015-2020), EB-2017-0127/8, November 29, 2018 (link) p. 12, fn. 3; The $1.5 million Union Gas adaptive thermostat program approved by the OEB in the mid-term review is properly considered to be part of the DSM budget per the latest OEB verification report: OEB, *2019 Natural Gas Demand-Side Management Annual Verification Report*, December 3, 2020, p. 208 (link).
[9] See Table 1 above.
[10] EB-2019-0271, Exhibit I.ED.7, Page 3 (link).
[11] EB-2021-0002, Exhibit C, Tab 1, Schedule 1, Page 12 (link).

page 10 below, Environmental Defence asks that the OEB set higher targets for 2022 (with proportional increases in investment levels).

The proposed shareholder incentive structure changes are counter-productive

Enbridge is proposing major changes to the shareholder incentive structure starting in 2022. These changes appear to be counter-productive and should not be accepted. These will be very hard to undo in 2023 if they are adopted for 2022 because they are interrelated and multi-year. We therefore request that they be rejected, that the 2021 incentive structure be used for now, and that work be expedited on solving the fundamental problems with the current incentive structure. The problems with proposed changes are as follows.

First, Enbridge proposes to switch to gas savings targets based on the savings achieved in the first-year (net annual gas savings) versus the previous targets based on the savings achieved over the lifetime of the measures (cumulative lifetime savings).[12] This change will fail to incentivize longer-lasting DSM measures. In other words, it will skew Enbridge's programs toward shorter-lived measures over longer-lasting ones.

As the OEB knows, DSM programs implemented in 2022 will achieve reductions for many years. But some are longer-lived than others. For example, adding insulation to a home will provide benefits for decades whereas operational improvements may last only a few years. A longer-lasting measure is obviously better, other things being equal. Enbridge's proposed change would treat an upgrade that achieves 1,000 m^3 in savings for one year as equivalent to one that achieves 1,000 m^3 each year for 20 years, even though the second measure secures 20 times the overall savings. In the previous incentive structure, the first measure would count for 1,000 m^3 and the second would count for 20,000 m^3. In Enbridge's proposed structure they both count for 1,000 m^3. This is not a positive change.

At the very least, further consideration should be given before switching from cumulative lifetime savings to first-year annual savings. Switching from one to the other and back again would cause significant challenges. For example, it would impede efforts to compare targets from year to year. No change should be made at this time.

Second, Enbridge proposes a "Long Term GHG Reduction Incentive."[13] This incentive adds complication with few if any benefits. It simply provides a portion of the incentive envelope based on gas savings over 6 years. However, it is still based on the same calculated first-year savings figures underlying the main resource acquisition incentives. It is not based on actual *measured* gas savings as some intervenors such as BOMA have sought. Nor does it reflect declines in overall gas use as other intervenors such as the School Energy Coalition have sought.

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[12] EB-2021-0002, Exhibit D, Tab 1, Schedule 3, Page 3 (the targets are "Net Annual Gas Savings (m3)") (link); EB-2021-0002, Exhibit C, Tab 1, Schedule 1, Page 11 ("It is anticipated that net annual natural gas savings targets (m3), will be set for most resource acquisition type program offerings.") (link); to compare with the previous targets of cumulative lifetime gas savings see e.g.: OEB, *2019 Natural Gas Demand-Side Management Annual Verification Report*, December 3, 2020, pp. 207-208 (link).

[13] EB-2021-0002, Exhibit D, Tab 1, Schedule 2, Page 14 (link).

Although it is described as focusing on GHG reductions, it is no different from any other targets based on gas savings, including the main resource acquisition targets. A decline in gas consumption always achieves the same proportion of GHG reductions. Calling this a "GHG" incentive does not add anything. Instead, the added complication may make the overall shareholder incentive structure more impenetrable, reducing overall confidence in Enbridge's programs.

Third, and most importantly, the changes do not fix the long-standing problem with the shareholder incentives, namely the complete lack of any financial incentives to develop a plan that maximizes cost-effective gas savings. Enbridge earns a portion of the incentive envelope based on meeting targets set in its approved plan. This gives Enbridge an incentive to propose a mediocre plan with mediocre targets and then to beat those targets. For example, if Enbridge proposed a plan that is more efficient, invests more, and achieves 5 times the gas savings, it would not receive even $1 in additional incentives. Instead, Enbridge could be punished for doing this if the high targets and innovative programming made it harder to meet targets.

The solutions are simple. The size of the overall incentive envelope should be proportional to the overall net benefits or gas savings. This ratio between the incentive envelope and the benefits should be held constant. In that way, if Enbridge proposes a better and more efficient plan, it can increase its potential earnings. Also, Enbridge would still be driven to implement its plan to meet targets. Indeed, if such an incentive structure were in place now it is highly unlikely that Enbridge would be proposing a plan that achieves fewer gas savings for more money as they are here. Alternatively, costs could be rate-based and the return tied to the achievement of benefits for consumers.

It may be that Enbridge's "Net Benefits Shared Savings" incentive is meant to address the fundamental flaw discussed above. But it does not do so. First, the payouts are still based on targets set by the plan itself, creating an incentive to develop mediocre targets. Second, the incentive envelope does not change. Therefore, a far more efficient and ambitious plan with higher targets does not generate greater rewards.

The changes proposed by Enbridge will make it harder to fix the real problems with the incentive structure by adding a great deal of complexity. Changes to the incentive structure should not be made at this time. Enbridge can easily prepare targets based on the previous structure to ensure that programming can continue for 2022 (e.g., based on the target adjustment mechanism). We hope that it will do so in its reply so the OEB can consider this option.

The new market transformation programming is highly problematic

Enbridge is proposing to implement entirely new market transformation programming without any meaningful review of that programming. This should not be approved because there are substantial concerns with this programming, significant resources will be expended in rolling out new programming, and it could be challenging to undo the creation of this new programming if necessary.

Low Carbon Transition Program

Enbridge is proposing a new "Low Carbon Transition Program." This requires much more review. First and foremost, it appears that this program will provide incomplete information to customers, rule out cost-effective technologies, and thus result in higher-than-necessary energy costs. For example, commercial customers will only have access to information and incentives on gas-powered heat pumps.[14] However, electric heat pumps are more cost-effective in many cases, and this is increasingly so as carbon prices go up and electric heat pumps continue to proliferate. Customers should be given complete information on alternative options before they invest. And incentives should not favour one technology over another, especially when the subsidized technology is the more costly and inferior one.

As another example, the residential program is restricted to "hybrid heating" involving a gas furnace plus an electric heat pump.[15] It therefore excludes heating by electric heat pumps alone (e.g., cold-climate heat pumps). This is detrimental to consumers because this is often the most cost-effective option, and is increasingly so.[16] Again, customers should be given complete information on alternative options before they invest and incentives should not be biased.

Furthermore, this kind of market transformation program should not strive only for "low carbon" – it should strive for zero-carbon heating. Market transformation is inherently forward-looking. When the goal is net-zero by 2050, it makes little sense to invest in long-term solutions with continuing carbon impacts (i.e., low carbon) that will need to be replaced yet again with the zero-carbon solution that is consistent with net zero. That is particularly the case where zero-carbon solutions are available now, as they are with heating.

As an aside, fuel switching measures, including electric heat pumps, have always been eligible and appropriate DSM activities.[17] Although they have not been seriously pursued in the past, they are now becoming cost-effective with increased carbon pricing, decreasing electric heat pump costs, and the recent advent of cold-climate units capable of handling Ontario's winters.[18]

Other important aspects of this programming need more consideration. For example, a program focusing on heat pumps should likely be delivered jointly with the IESO, delivered by a third party funded by Enbridge and the IESO, or delivered through some other means. Also, some or all of this programming could potentially be rolled into existing or new resource acquisition programs for measures that are cost-effective. This would result in additional rigour and verified savings. For example, the standard resource acquisition programs could have electric heat pumps

[14] EB-2021-0002, Exhibit E, Tab 3, Schedule 1, Page 6 (link).
[15] EB-2021-0002, Exhibit E, Tab 3, Schedule 1, Page 3 (link).
[16] Heather McDiarmid, *Analysis of the Residential Electrification Potential for the Waterloo Region,* October 2020 (link).
[17] E.g. EB-2008-0346, OEB, *Demand Side Management Guidelines for Natural Gas Utilities,* June 30, 2011 p. 4 ("The natural gas utilities may pursue DSM activities that support fuel-switching away from natural gas…") (link); EB-2016-0359, ICF (for the OEB), *Marginal Abatement Cost Curve*, July 20, 2017, p. A-4 to A-5 14 (link).
[18] Heather McDiarmid, *Analysis of the Residential Electrification Potential for the Waterloo Region,* October 2020 (link).

added to them where they are cost-effective.[19] These kinds of major changes should be considered.

In light of the above, much more review is necessary.

Building Beyond Code Program

Enbridge's proposed Building Beyond Code Program mainly rolls up previous market transformation programs. However, there are still elements that merit more detailed review. For example, eligibility for these programs requires customers to commit to continue using fossil gas.[20] This is not reasonable. If customers could potentially lower their energy bills or otherwise meet their goals most effectively through electrification, they should not be foreclosed from even considering this option when they sign up for Enbridge's assistance.

Second, it is no longer clear that Enbridge is the appropriate organization to be providing technical assistance on energy efficiency. Now that electrification options are increasingly more cost-effective than gas-based options, assistance should be provided in much closer collaboration with the IESO. What this should look like requires further review.

Conclusion re Market Transformation

Lastly, it is worthy to note that Enbridge plans to spend over $9 million in market transformation programs in 2022 and for that to increase to over $30 million by 2027.[21] That is a 230% increase. In comparison, resource acquisition programs increase only at the rate of inflation over that period, for a total of a 10% increase from 2022-2027.[22] Enbridge is proposing to devote 100% of the 3% budget escalator to these market transformation programs. The 2023-2027 funding is not in scope for these submissions, but Enbridge's future plans further highlight how important it is that these programs be developed appropriately.

Table 2: Proposed Budget Increases From 2022 to 2027[23]

	Nominal	**Inflation Adjusted**
Resource Acquisition (incl. all but market transformation)	10%	0%
Market Transformation	230%	199%

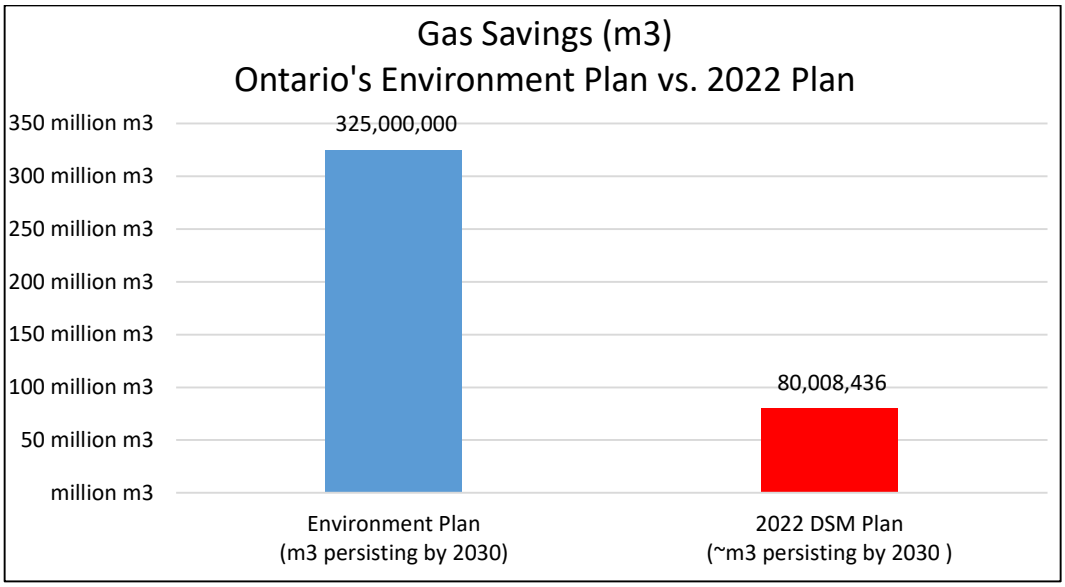
In light of all of the above, Environmental Defence asks that the OEB defer any potential approval of the new market transformation program until further review and redirect funding in the meantime to achieving greater gas savings through resource acquisition programs.

[19] *Ibid*.
[20] EB-2021-0002, Exhibit E, Tab 2, Schedule 2, Page 20, 25, & 32 (link).
[21] See Appendix 1; EB-2021-0002, Exhibit D, Tab 1, Schedule 1, Page 9 (link).
[22] *Ibid*.
[23] *Ibid*.

Increase DSM savings for 2022

Environmental Defence asks the OEB to set higher gas savings targets for 2022 (and allow Enbridge to increase its DSM investment levels proportionately). As detailed above, the proposed savings and DSM investment levels are far too low.

Not surprisingly, the proposed 2022 savings levels are far below anything that could be considered to be consistent with the Environment Plan. As illustrated below, more than 400% of the proposed 2022 savings levels would be required to achieve consistency with the Environment Plan 2030 target. Furthermore, this figure was developed with conservative assumptions (see footnote 24) and therefore the actual gap is likely larger.



[24]

Enbridge appears to have proposed such a low gas savings target based almost entirely on the reference to "modest budget increases" in the OEB's guidance letter.[25] This is a misreading of the OEB's guidance for a number of reasons:

1. The OEB called for modest budget increases "*in order to increase natural gas savings*."[26] Enbridge has not paid heed to this critical part of the OEB's guidance because it is proposing a decrease in savings.

[24] The Environment Plan targets 3.25 billion in persisting annual m3 savings by 2030 (see Navigant (for the OEB/IESO), *2019 Integrated Ontario Electricity and Natural Gas Achievable Potential Study*, December 18, 2019 (link) pp. 113 & vi). Savings levels for 2022 consistent with the Environment Plan were calculated by dividing the 2030 target by 10 (3.25 B m3 / 10 = 325 M m3). This likely understates the target because there are less than 10 years from 2022 to achieve the 2030 target. It was conservatively assumed that 75% of the 2022 first-year savings will persist by 2030 (106.7 M m3 * 0.75 = 80 M m3). For the 2022 first-year savings levels see EB-2021-0002, Exhibit D, Tab 1, Schedule 3, Page 3 (link).
[25] OEB, *Re: Post-2020 Natural Gas Demand Side Management Framework*, December 1, 2020, p. 3 (link).
[26] *Ibid*.

2. The OEB qualified its comment about "modest" increases with the following: "However, the appropriate level of ratepayer funding expended for DSM programs must weigh the cost-effective natural gas savings to be achieved against both short-term and long-term customer bill impacts."[27] Again, these programs result in **lower bills**. Customer energy bills are lowered by over $3 for every $1 invested.[28] Doubling the investment levels would more than double the energy bill reductions. Greater investments would also create broader programs that more customers would have the opportunity to participate in.

3. The Ministry of Energy also referenced bill impacts in its letter to the OEB.[29] This *does not* justify lower or stagnant investment levels because that would result in *higher* bills. It justifies greater investment levels.

4. Enbridge has unduly emphasized the word "modest increase." There is no magic in that word and it is open to a broad range of interpretations. Parsing the word "modest" is unhelpful. Indeed, the OEB's letter is clear that the targets and investment levels should be based, not on an analysis of the word "modest," but on an analysis of the factors set out in its letter. The OEB's letter clearly states that "the primary objective of ratepayer-funded natural gas DSM is assisting customers in making their homes and businesses more efficient in order to help better manage their energy bills."[30] That requires increased gas savings and proportionally greater investments to make that possible.

5. Again, the 2022 plan is not an increase at all. The gas savings and investment levels are both considerably lower than previous years.[31]

We acknowledge that the OEB has a difficult task in setting higher gas savings targets with five months remaining until 2022. Environmental Defence proposes a simple solution: mandate a proportional increase in both target gas savings levels and investment levels in resource acquisition programs. This would ensure that customers are getting at least the same value for money and would give Enbridge sufficient guidance to adjust its programs for a 2022 ramp-up. We suggest a focus on resource acquisition programs because they are the only ones that are forecasted, measured, and achieve verified gas savings.

As for the specific amount, Environmental Defence requests *at least* a 30% increase in gas savings. However, Environmental Defence believes a much higher increase would be in the interests of consumers according to the energy efficiency potential study jointly commissioned by the OEB and IESO. According to this study, gas savings could be cost-effectively increased by over four times the amount proposed by Enbridge, which would increase the bill savings by four times as well.[32] In this context, a 30% increase is exceedingly modest.

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[27] *Ibid*.
[28] EB-2021-0002, Exhibit D, Tab 1, Schedule 4, Page 2 (link).
[29] Minister of Environment, *Letter to the OEB*, November 27, 2020 ("the OEB must balance ratepayer interests regarding bill impacts with the level of natural gas savings pursued") (link).
[30] OEB, *Re: Post-2020 Natural Gas Demand Side Management Framework Board*, December 1, 2020, p. 2 (link).
[31] See starting on page 3
[32] Navigant (for the OEB/IESO), *2019 Integrated Ontario Electricity and Natural Gas Achievable Potential Study*, December 18, 2019 (link).

A 30% gas savings increase would correspond to an investment that remains within the $2 per month cost guidance previously provided by the Board.[33] Although additional investments would be required (~$30 million), the benefits would far outweigh them. Based on the benefit/cost ratio of the existing programs, customers would achieve *net* savings of over $112 million (net of free riders and discounted to present value) with this 30% increase.[34] Again, this is net of the costs, and so the $112 million represents the potential gain to consumers, primarily though lower gas bills of a 30% increase.[35]

Provide alternative DSM plan options for 2023-2027 with increased savings

Environmental Defence also asks the OEB to direct Enbridge to provide alternative DSM plan options for 2023-2027 that would achieve greater gas savings and bill reductions for the OEB's consideration going forward, including a viable option to meet the Environment Plan targets. Next year seems doomed to be yet another year where time is very tight to develop a fully optimal plan. This heightens the need for Enbridge to come back with better proposals as soon as possible for 2023-2027.

If we proceed as is, the OEB will find itself with essentially only one option for 2022-2027, namely the Enbridge plan or something close to it. Instead of picking between options A, B, or C, with varying levels of ambitiousness, or selecting an option from a cost curve, the OEB will in practice only have one option, subject to tweaks that are minor enough not to require sending Enbridge back to the drawing board. To remedy this, Enbridge should be directed to come back with multiple options for consideration.

Without this, the plan will never come close to meeting Ontario's Environment Plan goals or maximizing consumer benefits. If the process is left to play out based on Enbridge's single-option proposal, the 2022 gas savings gap will grow each year from 2022-2027. Enbridge's proposed savings levels are as poor for 2023-2027 as they are for 2022.[36] By 2027 there will be no chance of coming anywhere close to the Environmental Plan goals. Without higher-savings options, that is likely a foregone conclusion. This is a problem for a number of reasons.

First, it is contrary to government policy.

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[33] EB-2019-0271, Exhibit I.ED.7, Page 3 (link); The $2/month guidance would provide an additional $30,172,223 as of 2020. That figure would be higher now due to inflation and customer growth. Adding this additional amount to the resource acquisition budget ($107,500,000) would allow for roughly a 30% increase in targets. This would produce roughly 32 million m3 in additional first-year gas savings.

[34] EB-2021-0002, Exhibit D, Tab 1, Schedule 4, Page 2 (link); TRC net benefits of $374 * 30% = $112.2 million.

[35] Some of the benefits are in lower electricity and water bills.

[36] The future targets are based on the previous year's achievements, plus a 4% increase (to reflect the 2% inflationary increase in resource acquisition budgets and a 2% stretch factor). These increases are inconsequential when the gap is so large. EB-2021-0002, Exhibit C, Tab 1, Schedule 1, Page 12 (link); EB-2021-0002, Exhibit D, Tab 1, Schedule 1, Page 9 (link).

Second, it is contrary to the recommendation of the Auditor General: "that the Ontario Energy Board align its decisions with the Environment Plan and any other provincial climate change goals."[37]

Third, it would be at least partially inconsistent with the recent OEB decisions in the hydrogen and renewable natural gas proceedings. In those proceedings the OEB has approved spending on climate-related initiatives that cost far more per tonne of avoided CO_2e as compared to energy efficiency (as shown below).

Table 3: Comparison of Ontario Fossil Gas Decarbonization Options	
	Cost-effectiveness ($/t$CO_2e$, combustion only)
Cost-effective energy efficiency	$0 to -$140 (i.e. savings)[38]
Renewable Natural Gas	$338[39]
Hydrogen	>$900 (commodity cost) + ~$4,000 (capital cost) [40]

Fourth, and perhaps most importantly, it would be contrary to the interests of consumers. Natural gas DSM is likely the most important measure the Ontario Energy Board has ever put in place to save customers money. From 1995 to 2018, DSM programs have saved customers a staggering **$6.3 billion**.[41] These are *net* savings, which have been audited, and which have already been reduced by the cost of the efficiency measures to the customer and utility, the cost of delivering the programs, and free riders.[42] The *gross* savings (i.e., the reduced gas costs from reduced gas use) are far higher. Energy bills in Ontario are far lower than they would otherwise have been because of natural gas DSM.

For 2022 alone, the benefits from Enbridge's proposed resource acquisition programs are **$535 million**, primarily in avoided gas and carbon costs.[43] The net benefits after all customer and

[37] Auditor General of Ontario, *Value-for-Money Audit: Reducing Greenhouse Gas Emissions from Energy Use in Buildings*, November 2020 (link) p. 19.
[38] EB-2016-0359, ICF (for the OEB), *Marginal Abatement Cost Curve*, July 20, 2017, p. 14 (link); Per Exhibit JT1.7 in EB-2020-0066 (link, PDF p. 398), if upstream emissions are accounted for, the cost is $0 to -$108/tCO2e.
[39] EB-2020-0066, Exhibit I.SEC.15 (link); Per Exhibit JT1.7 in EB-2020-0066 (link, PDF p. 398), if upstream emissions are accounted for, the cost is $262/tCO2e.
[40] Exhibit I.ED.11(a)&(b), p. 2-3 (link, PDF p. 197-198); Per Exhibit JT1.7 in EB-2020-0066 (link, PDF p. 398), if upstream emissions are accounted for, the cost is over $700/tCO2e for commodity costs and over $3,000 for capital costs.
[41] EB-2019-0271, Exhibit I.ED.2, Page 1 (link).
[42] *Ibid.*; OEB, *Filing Guidelines to the 2015-2020 DSM Framework*, p. 26-31 (link); OEB, *Demand Side Management Framework for Natural Gas Distributors*, December 22, 2014 (link).
[43] EB-2021-0002, Exhibit D, Tab 1, Schedule 4, Page 2 (link).

utility investments are accounted for are $374 million.[44] The benefits will increase substantially each year as carbon prices and therefore avoided carbon costs increase. Even though improvements are necessary, these are excellent investments. Over all of the resource acquisition programs, every $1 of investment creates $3.32 in benefits (net of free riders and discounted to present value).[45] For the most effective programs, $1 creates $17.28 in benefits.[46] We should be investing much more in these highly cost-effective programs in order to benefit customers and lower energy bills.

These programs are particularly important today as increasing investments are made to prevent catastrophic climate change. DSM provides carbon emission reductions for a "negative cost" because consumers actually save money and reduce carbon emissions at the same time.[47] It makes a great deal of financial sense to pursue all cost-effective energy efficiency programming as the first step.

Aside from major energy bill reductions, DSM provides other important ancillary benefits, such as:

- **Creating jobs in Ontario:** DSM replaces out-of-province gas purchases with made-in-Ontario gas savings and green jobs. It therefore creates jobs in Ontario for tradespeople who sell and/or install efficiency measures and throughout the economy by increasing income to be spent in the local economy.[48]
- **Strengthening Ontario's economy:** DSM improves efficiency and productivity by allowing business to produce the same output with fewer inputs. This makes businesses more competitive and creates economic growth.[49]
- **Save carbon costs:** Conventional fossil gas creates over 30% of Ontario's carbon emissions and is the largest source of carbon emissions in the province after transportation.[50] However, even a conservative analysis indicates that DSM can reduce emissions from natural gas by 20% by 2038.[51] According to an OEB study, DSM is the by far the cheapest way to reduce Ontario's carbon costs.[52]

Furthermore, many DSM opportunities are lost for decades if they are missed.[53] For example, if equipment is purchased without upgrading to the most efficient option, the customer must wait

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[44] *Ibid*.
[45] *Ibid*.
[46] *Ibid*.
[47] EB-2016-0359, ICF (for the OEB), *Marginal Abatement Cost Curve*, July 20, 2017, p. 14 (link).
[48] EB-2015-0029/0049, Transcript Vol. 10, p. 130, lns. 4-11; Dunsky Consulting, *The Economic Impact of Improved energy Efficiency in Canada*, April 3, 2018 (link); Efficiency Canada, *Less is More*, May 2018 (link).
[49] Centre for Spatial Economics, *The Economic Impacts of Reducing Natural Gas Use in Ontario*, April 2011 (link).
[50] EB-2019-0294, Exhibit I.ED.1(J), p. 4 (Ontario's GHG emission in 2018 were 159 Mt CO_2e overall and 50.4 Mt CO_2e from natural gas.) (link, PDF p. 161).
[51] Navigant, *2019 Integrated Ontario Electricity and Natural Gas Achievable Potential Study*, September 13, 2019, prepared for the IESO and OEB, p. ix (link).
[52] EB-2016-0359, ICF (for the OEB), *Marginal Abatement Cost Curve*, July 20, 2017, p. 14 (link).
[53] Ontario Energy Board, *Filing Guidelines to the 2015-2020 DSM Framework*, EB-2014-0134, p. 14 ("Lost opportunity markets refer to DSM opportunities that, if not undertaken during the current planning period, will no longer be available or will be substantially more expensive to implement in a subsequent planning period. An

until the end of life of the equipment before an efficiency upgrade is cost-effective again. Similarly, if a house is renovated or built without efficiency upgrades, those improvements may not ever be cost-effective. These are instances where higher-than-necessary gas bills will be "locked in" for decades because of insufficient DSM investment levels today.

Although DSM investments will increase rates somewhat, they will **decrease overall bills** because they pay for themselves through energy savings. They must do this to be eligible for DSM funding. Decreasing bills is the most important factor. Although non-participants do not share in all of the savings, they share in some of the savings that accrue to the whole system (e.g., avoided infrastructure costs). Also, there are fewer and fewer non-participants over time. And fairness is maximized by increased investments in DSM to create the most *opportunities* for the broadest set of customers to participate.

Although DSM costs are incurred in the first year and the benefits accrue for many years after, that is not an impediment to increased investments. Those investments can be amortized just like they are for infrastructure.

Environmental Defence strongly believes that investments should be much higher between 2022 and 2027. However, we understand that broader questions about appropriate investments levels are not yet before the board. For now, for we simply ask that the OEB keep the possibility of increases open by directing Enbridge to provide alternative DSM plan options for the OEB's consideration that would achieve greater gas savings and bill reductions, including an option that is consistent with Ontario's Environment Plan.

Maintain well-tested DSM Framework elements for 2022

Finally, Environmental Defence respectfully requests that the OEB maintain all or most of the previous DSM framework for 2022 but with improved targets and investment levels for 2022. This would allow a proper review of potential framework-level changes for 2023-2027 and avoid making changes for 2022 that may need to be undone in 2023.

Most importantly, Environmental Defence asks that the OEB decline to approve Enbridge's new incentive structure for 2022 (see page 6 above for details) and defer any potential approval of the proposed new market transformation programming until further review, and redirect funding in the interim to achieve greater gas savings through resource acquisition programs (see page 7 above for details).

The OEB has also provided specific guidance on DSM framework issues that has not been addressed by Enbridge at all. For example, the OEB has asked Enbridge to develop a net cost impact approach that would account for the savings accrued to the entire system from DSM (e.g., avoided infrastructure, commodity price suppression, etc.).[54] The OEB has also asked Enbridge

example of preventing a lost DSM opportunity would be improving the thermal envelope of a building at the time the building is undergoing unrelated major renovation work.") (link).

[54] Ontario Energy Board, *Decision and Order on Applications for Approval of the 2015-2020 DSM Plans*, EB-2015-0029/0049, January 20, 2016, p. 87 (link).

to explore amortization.[55] This guidance should be followed and considered as part of the next changes to the framework alongside other ideas, rather than rush through partial changes for 2022.

Conclusion and summary of requests

It is essential that 2022 represent the beginning of progress for DSM in Ontario. Although a roll-over may be tempting for its simplicity, stagnant or declining savings levels will make it even harder and more expensive to ramp up for 2023. The current plans are totally inconsistent with the climate challenge and with government targets. Time is running out and waiting longer to make progress will only result in lost opportunities and higher costs for consumers.

For the reasons set out above, Environmental Defence requests that the OEB:

1. Set gas savings targets for 2022 *at least* 30% higher than proposed (with proportional increases in investments);

2. Direct Enbridge to provide alternative DSM plan options for 2023-2027 that would achieve greater gas savings and bill reductions for the OEB's consideration later in this process (including an option consistent with the Environmental Plan);

3. Maintain all or most of the previous DSM framework for 2022 but with improved targets and investment levels for 2022;

4. Decline to approve Enbridge's new incentive structure for 2022; and

5. Defer any potential approval of the proposed new market transformation programming until further review, and redirect funding in the interim to achieve greater gas savings through resource acquisition programs.

Thank you for the opportunity to make these submissions.

[55] *Report of the Ontario Energy Board, Mid-Term Review of the Demand Side Management (DSM) Framework for Natural Gas Distributors (2015-2020)*, EB-2017-0127/8, November 29, 2018, p. 6 (link).

Appendix 1 – Breakdown of the proposed budget

Table 4: Proposed Budgets - 2022-2027[56]								
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**% Change Nominal**	**% Change Inflation Adjusted**
Resource Acquisition (incl. all but market transformation)	$108,720,594	$110,871,656	$113,065,739	$115,327,055	$117,633,596	$119,986,266	10%	0%
Percent Increase		2%	2%	2%	2%	2%		
Market Transformation	$9,279,406	$13,028,344	$17,029,261	$21,272,696	$25,796,143	$30,614,958	230%	199%
Percent Increase		40%	31%	25%	21%	19%		
Total Program	$118,000,000	$123,900,000	$130,095,000	$136,599,751	$143,429,739	$150,601,224	28%	16%
Portfolio Overhead	$18,000,000	$18,360,000	$18,727,200	$19,101,744	$19,483,779	$19,873,455	10%	0%
Total	$136,000,000	$142,260,000	$148,822,200	$155,701,495	$162,913,518	$170,474,679	25%	14%

[56] EB-2021-0002, Exhibit D, Tab 1, Schedule 1, Page 9 (link); inflation estimated at 2%.