

**Public Utilities Board Review of
Efficiency Manitoba's 2020/21 to 2022/23 Plan**

**MANITOBA INDUSTRIAL POWER USERS GROUP (MIPUG)
FINAL ARGUMENT
WRITTEN SUBMISSION
January 24, 2020**

1 **Summary of Submission**

2 The Manitoba Industrial Power Users Group (MIPUG) submits this written argument in
3 support of the oral argument to be undertaken by legal counsel, Mr. Antoine Hacault.

4 The filing consists of an overview of the mandate with recommendations relating to EM's
5 current plan. Following that are four separate filings focused on the following issues:

- 6 1. Efficiency Manitoba Plan Acceptance
- 7 2. Efficiency Manitoba Plan Development
- 8 3. Other Topics for Considerations
- 9 4. Industrial Customer Specific Programming Recommendations

1 **Overview of Efficiency Manitoba’s Mandate**

2 **ISSUE:**

3 The PUB in Procedural Order No. 162/19 determined that the following issues were in scope for
4 this hearing:

5 6. Compliance of Efficiency Manitoba with directions from government through
6 mandate and framework letters.

7 8. The mandate for Efficiency Manitoba’s activities and recommendations to
8 government regarding net savings targets.

9 **MIPUG SUMMARY AND/OR RECOMMENDATION:**

10 1. That the Public Utilities Board recommend in its report that Efficiency Manitoba be
11 directed to amend its plan:

12 a. by minimize spending on programs that exhibit unfavourable economics and, if
13 possible, increasing prioritization on programs that exhibit very favourable
14 economics (such as Industrial Custom initiatives). Reducing programs such as the
15 following should primarily be absorbed by reducing the achievement of the 1.5%
16 In doing so, the programs and measures for low income, Metis and First Nation
17 sectors should maintained according by allocating 5 to 6% of the budget to those
18 sectors.

19 b. to seek from Manitoba Hydro details of Manitoba Hydro’s needs from an
20 integrated resource planning perspective and that Efficiency Manitoba be directed
21 to amend its electric DSM plan and the programs and measures in its electric DSM
22 plan, to the extent required, to put greater emphasis on programs and measures
23 which meet the integrated resource planning needs of Manitoba Hydro. This
24 directive includes a consideration of the timing of those needs and the region or
25 regions of those needs.

26 c. by removing barriers to participation for programs which are more cost-effective
27 (including caps on industrial programming).

28 2. That the Public Utilities Board recommend in its report that Efficiency Manitoba be
29 directed to advise and update the PUB of what it has done to implement the amendments
30 recommended in 1 above.

31 **DISCUSSION AND SUPPORT:**

1 In this hearing we submit that the evidence suggests that Efficiency Manitoba has designed its
2 portfolio by giving little or no priority to the following mandatory priorities:

- 3 1. Choosing the most cost-effective programs to meet legislative targets (Hansard wording)
4 or “optimizing value for money” (Mandate letter wording) when building a cost-effective
5 portfolio;
- 6 2. Treating DSM as an alternative resource to meet demand projections of Manitoba Hydro.

7 Rather, it has focused on:

- 8 1. Achieving the 1.5% target; and
- 9 2. Sprinkling programs across the residential, agricultural, commercial and industrial sectors.

10 MIPUG does challenge or question the design of portfolios which gives a substantial weight on the
11 following factors set out in section 11 of The Efficiency Manitoba Regulation No. 119/2019 which
12 reads as follows:

13 “In addition to the factors set out in subsection 11(4) of the Act, the PUB must
14 consider the following when reviewing an efficiency plan:

15 (c) whether, if it is practical to do so, at least 5% of Efficiency Manitoba’s budget
16 for demand-side management initiatives is allocated to initiatives targeting low-
17 income or hard-to-reach customers;”

18 MIPUG submits that a review of the NFAT, the statements of the Minister responsible for the
19 legislation, *The Efficiency Manitoba Act*, the regulation enacted as well as the April 24, 2019
20 mandate letter from Minister Colleen Mayer (see AMC Exhibit 4 at page 4) support the view that
21 Efficiency Manitoba should be designing its plan with more weight put on the mandated priorities.

22 **STATEMENTS MADE BY THE MINISTER RESPONSIBLE FOR THIS LEGISLATION**
23 **– MINISTER SCHULER**

24 During the May 23, 2017 debates which follow the second reading of Bill 19, the bill subsequently
25 enacted as *The Efficiency Manitoba* Minister Schuler quoted extensively from the NFAT report and
26 linked some statements to the provisions of Bill 19.

27 At Page 231 of the May 23, 2017 Hansard, part of the NFAT report from which the Minister
28 Schuler quotes is as follows:

29 “Manitoba Hydro treats DSM as a reduction in load forecast demand, rather than
30 as an alternative resource to meet demand projections. This approach was criticized
31 by an independent expert and several Interveners. In their view, DSM should have

1 the same status as generation sources, and be evaluated as such for planning
2 purposes. The panel shares that view. **And thus Bill 19.**” (emphasis added to the
3 Minister’s words linking Bill 19 to the quote from NFAT)

4 At page 232, Hansard for May 23, 2017, Minister Schuler concluded as follows:

5 “This is like an executive summary, and I felt it was very important, because it
6 certainly lays out the rationale of why we’ve begun this.”

7 Consistent with that objective of treating DSM as an alternative resource, clause 12 (1) (b) of the
8 Efficiency Act Regulation requires the levelized marginalized value to Manitoba Hydro to be based
9 “on a methodology consistent with its resource planning process, taking into account the **timing**
10 and **duration** of the savings” (emphasis added).

11 Mr. Bowman dealt with this issue in his direct evidence on January 20, 2020 at pp. 2125 to 2127
12 of the transcript. The following is an extract from page 2127 of the transcript:

13 And we haven't had the type of information needed in this Hearing to be able to
14 understand the extent to which what EM is – is achieving in power savings is in
15 fact meeting a need deferring generation within a horizon that we have a reasonable
16 prospect of -- of understanding and reasonable certainty on or whether it's more in
17 the context of opportunity to do something and – and whether that opportunity is
18 worthwhile.

19 If it's about an opportunity to acquire some power we can sell to export markets
20 but we're actually spending more money than that -- that power is worth and driving
21 up our rates, then you -- I think you'd have a pretty significant question about
22 whether that target is -- is in the public interest.

23 Mr. Harper described the current process as putting the cart before the horse (January 15, 2020
24 Transcript at pages 1989 to 1991).

25 Failing to analyze DSM as an alternative resource was the very thing that the PUB criticized in the
26 NFAT hearing. See also Slide 8 of the direct testimony of Patrick Bowman marked as MIPUG
27 Exhibit 13:

- 28 • “need” in IRP is not just a target date for new resources – it is about optimized way to deal
29 with all periods. For example, opportunities in advance of shortfalls that allow more
30 exports.
31 • Range of options should include generation, and DSM at alternate levels and means.”

32 This policy of treating DSM as a stand-alone resource is set out in clause 4 (1) (c) of *The Efficiency*
33 *Manitoba Act* which reads as follows:

1 **“Mandate**

2 4(1) The mandate of Efficiency Manitoba is to ...

3 ...

4 (c) mitigate the impact of rate increases and delay the point at which capital
5 investments in major new generation and transmission projects will be
6 required by Manitoba Hydro to serve the needs of Manitobans;”

7 In the regulatory accountability impact analysis (see MIPUG Exhibit 11) the objective of the
8 regulations was described as follows:

9 Programs and services delivered by the corporation will reduce the impact of future
10 electricity rate increases on Manitoba ratepayers, defer costly new generation,
11 foster private-sector involvement in the program delivery, and contribute to the
12 reduction of greenhouse gases within Manitoba. The efficiency plan will help
13 Manitoba Hydro counter growing demand for electricity and defer the need for
14 Keeyask–like generation developments far into the future.

15 Again the policy of treating DSM as an alternative resource to counter growing demand for
16 electricity and defer costly new generation is re-emphasized.

17 **USING THE MOST COST EFFECTIVE MEASURES AND OPTIMIZING THE COST OF**
18 **THE PLAN**

19 Many things flow from treating DSM as a stand-alone resource. Although sprinkling programs
20 across customer classifications is desirable, it was not intended to trump the overall objective of
21 choosing the most cost-effective programs to meet targets. Minister Schuler also dealt with this
22 issue at the May 23, 2017 committee debates as follows: (see page 210 of Hansard)

23 “Programs will cover all customer classifications, so it will be residential,
24 commercial, industrial. The new corporation will develop a plan that lays out the
25 programs and services to meet the legislative targets. Many of the programs exist
26 today but could be expanded, so also new programs could be added.

27 **But what we want to do is we want to allow the professionals in the new**
28 **corporation to tell us the most cost-effective programs to meet the targets.”**
29 (emphasis added)

30 Consistent with this objective the most cost-effective programs to meet targets, Minister Schuler
31 had this to say at page 228 of Hansard:

1 “Let us be an efficient, and effective and dynamic and outstanding Manitoba and
2 allow Manitoba Hydro to start building equity because the day is going to come
3 when, yes, we will have to build another hydro dam.

4

5 Let’s be far more efficient. Let’s be far more effective and build the system, build
6 the culture, based on Efficiency Manitoba, that allows Manitoba to become the
7 jewel in the crown of Manitoba and for Manitobans. That’s our goal.”

8 The issue of optimizing value for money has found its way to the regulations.

- 9 • Clause 9 (f) of the *Act* requires Efficiency Manitoba to prepare a plan that not only requires
10 it to report on the cost effectiveness of the plan as a whole but also on the cost effectiveness
11 of “each of the initiatives proposed” in its plan.
12 • Consistent with the legislature’s objective of optimizing cost effectiveness, the PUB is
13 required under Clause 11 (4) (p) of the *Act* to consider “the benefits and cost effectiveness
14 of the initiatives proposed in the plan”.

15 This analysis on the relative benefits and cost effectiveness of the initiatives, as opposed to the plan
16 as a whole, has largely been ignored in EM’s plan.

17 In this hearing Efficiency Manitoba has not provided to the PUB an alternative plan which aligns
18 with this priority set out by Minister Schuler and by the subsequent Minister responsible for
19 Efficiency Manitoba, Minister Mayer in her mandate letter to Efficiency Manitoba.

20 This was further emphasized by the PUB in Order 59/18, page 120,¹ which stated that:

21 The Board finds that, in light of the new, lower, levelized marginal value, some of
22 Manitoba Hydro’s demand side management programming may no longer be cost
23 effective. This was acknowledged by Manitoba Hydro witnesses and is not
24 contested. Consumer rates should not, at this time, recover the costs of demand
25 side management programs that are no longer cost effective, unless justified by
26 having a lower-income target market. Given the evidence adduced in this
27 proceeding about energy poverty and bill affordability, it is reasonable for
28 consumer rates to recover the costs of lower-income demand side management
29 programs, even if not cost effective as assessed against the new lower marginal
30 value.

31 In light of the above, the Board recommends that Manitoba Hydro reduce its
32 demand side management spending. Manitoba Hydro should review its demand

¹ Reproduced in PUB Exhibit 14, Book of Documents page 138.

1 side management programming for cost effectiveness and cease or modify
2 spending on programs that are no longer cost effective, except for programs
3 targeted at lower income and First Nations on-reserve consumers. In addition to
4 continued Utility investment in lower-income demand side management programs,
5 the Board recommends that the provincial government amend Efficiency
6 Manitoba’s mandate to explicitly include consideration of bill affordability. This
7 would include targeting of lower income consumers with demand side
8 management programs, as well as consideration of the impact of demand side
9 management costs being paid by non-participants.

10 Through cross-examination of the Efficiency Manitoba panel, the contrast between the cost-
11 effectiveness of the Custom program and the Residential Direct Install Program was explored. The
12 limitations on funding for the Custom program was also confirmed to have been adopted, without
13 change from Manitoba Hydro.

14 MIPUG also addressed the issue not optimizing the cost-effectiveness of the portfolio through the
15 direct evidence of Dale Friesen and Patrick Bowman.

16 For convenience we reproduce slide 7 of MIPUG Exhibit 13 which was described in detail by Mr.
17 Bowman at pages 2113 to 2124.

Cost-Effectiveness Example

Comparison of Selected EM Programs per Bowman evidence

	Electric Bundle				
	Commercial/ Industrial Custom	Residential Direct Install	Residential Product Rebates	Residential Home Renovation	
Utility Considerations					
Total 3-yr savings (GW.h)	70.6	5.7	34.7	15.3	Daymark Table 32
PAC Cost (\$M NPV)	\$8.88	\$1.62	\$10.24	\$7.72	PUB/EM I-11a-b
Levelized Cost (c/kW.h)	1.17	4.15	3.49	3.67	PUB/EM I-11a-b
Marginal Value (c/kW.h)	6.07	6.35	6.06	10.65	
PACT Ratio	5.18	1.53	1.74	2.90	PUB/EM I-11a-b
Collective Considerations					
PMVT % <1	4%	19%	9%	91%	Daymark Table 32
Participant Considerations					
Payback period	5.41	0.77	2.27	4.14	PUB/EM I-11a-b
PV Revenue/Bill Change (\$000s)	37871	2739	20801	15931	Lost Revenue = RIM cost - PAC cost
PACT Benefit (PV Marginal Value) (\$000s)	46008	2482	17776	22428	PUB/EM I-11a-b
share of benefits to participants (%)	82.3%	110.4%	117.0%	71.0%	

Very small EM investment (low LC). Massive savings at low cost. Economics thin for customer (poor payback). Suggests much more potential not being pursued. Issue appears to be "caps" EM applies to its support levels.	Weak bundles. Very costly power to EM (LC) due to high incentives/costs. Poor PAC. Customers make out exceedingly well (short payback, bill savings exceed value of power to MH). Dubious merit to EM. Also very short (mostly 10 yrs or less) - limited IRP value	Very valuable power (distribution peaks). Very costly measures that are not cost justified (PMVT). Result is poor customer payback. Looks OK for EM because of valuable power, but significant location concerns.
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19 The objective of giving priority to optimizing value for money was set out in the April 24, 2019
20 letter from the Minister of Crown Services, Colleen Mayer, and a letter to Efficiency Manitoba Inc.
21 as follows: (see AMC Exhibit 4 at page 5)

1 “We also ask that you assume ownership and leadership in respect of our following
2 priorities for you:

3

4 Develop and submit for review and approval your initial 3-year plan for demand-
5 side management initiatives to meet your mandated savings targets, while
6 optimizing value for money.”

7 We submit that the current plan has not given sufficient weight to the legislative and ministerial
8 intention of creating a plan which optimizes value for money. Programs which have greater value
9 for money such the Custom Industrial program have been restricted by keeping historical caps. The
10 extent to which the programs which have more cost effective metrics could be used to achieve
11 mandated savings targets at a lower cost have not been explored by Efficiency Manitoba.

12 We therefore submit that with respect to In-scope item #6 which deals with “Compliance of
13 Efficiency Manitoba with directions from government through mandate and framework letters”
14 that EM has not discharged the onus on it to prove that it has complied with the priority of
15 “optimizing value for money”.

16 **PRIORITY OF REBUILDING MANITOBA’S ECONOMY BY IMPROVING THE**
17 **COMPETITIVENESS OF MANITOBA BUSINESS**

18 On two occasions, the minister responsible for *The Efficiency Manitoba Act* stated that one of the
19 four primary objectives was to improve the competitiveness of Manitoba business. When
20 introducing Bill 19 for the first reading, Minister Schuler indicated (see page 583 of Hansard for
21 Thursday, March 9, 2017):

22 The overall objectives of this bill are to reduce the impact of future rate increases,
23 the further need for expensive new energy construction, can create new
24 employment and business opportunities, and **improve the competitiveness of**
25 **Manitoba business.**”(emphasis added) (see same 4 priorities repeated May 11,
26 2017 page 137 of Hansard)

27 This priority was also repeated in the April 24, 2019 mandate letter from Minister Mayer to
28 Efficiency Manitoba as follows:

29 “First and foremost, Manitoba Crown corporations are part of our government
30 family, and must align with our government’s mandate to fix our finances, repair
31 our services **and rebuild our economy.** (emphasis added)

32 Coincidentally, this priority also aligns with creating a DSM portfolio which optimizes value for
33 money which is also in the same mandate letter. Programs such as the Custom program are among

1 the most cost effective and reducing the bills of the businesses through the Custom program will
2 improve the competitiveness of Manitoba businesses.

3 Consistent with these stated objectives, the legislature in passing *The Efficiency Manitoba Act*
4 detailed its priorities for Efficiency Manitoba in subsection 4 (1) which sets out the mandate of
5 Efficiency Manitoba. Clause 4 (1) (c) of the *Act* requires Efficiency Manitoba to **mitigate the**
6 **impact of rate increases** and delay a point at which capital investments and major new generation
7 and transmission projects will be required by Manitoba Hydro to serve the needs of Manitobans.

8 **OTHER CONSIDERATIONS**

9 Other Intervenors have suggested an increased investment in residential programs, such as the Air
10 Source Heat pumps is warranted. However, do so does not align with the priorities set out in the
11 Mandate letter on optimizing value for money. In particular Air Source Heat pumps likely don't
12 align with treating DSM as a stand alone resource to deal with the needs of Manitoba Hydro. As
13 explained by Efficiency Manitoba and by Mr. Bowman, that costly program does nothing to address
14 the winter peak on electricity demand in Manitoba.

15 MIPUG submits that nothing in the legislative history or legislation supports the view that the other
16 considerations take priority to over treating DSM as a stand-alone resource and choosing the “most
17 cost effective programs to meet the targets”. Therefore, although the PUB, in subsection 11 (4) of
18 the *Act*, is required to consider the accessibility of initiatives and additional factors prescribed by
19 the regulations, none of those additional factors are intended to take precedence over the legislative
20 priorities.

21 Thus for example, although clause 11 (b) of Manitoba Regulation 119/219 requires the PUB to
22 consider “whether the plan adequately considers the interests of residential, commercial and
23 industrial customers” it was explained by Minister Schuler, as previously quoted (see page 210 of
24 Hansard for May 23, 2017) that in doing so the government did not to take away the duty of “the
25 professionals in the new corporation to tell us the most cost effective programs to meet the targets”.

26 **CONCLUSION**

27 Subject to the stated exception with respect to low income, metis and first nation programs, we
28 submit that in recommending amendments to the plan, the PUB note that in this three year plan
29 submitted by Efficiency Manitoba, the plan does not sufficiently address the stated priorities of
30 optimizing the cost effectiveness of the plan and that it also does not align with the objectives stated
31 by the PUB in its NFAT report and restated by the Minister responsible that DSM plans should be
32 approached and designed with resource planning as a priority. Without providing alternative DSM
33 plans showing how EM has aligned its plan to meet the mandate in clause 4(1) of the *Act* to “delay
34 the point at which capital investments in major new generation and transmission projects will be
35 required by Manitoba Hydro to serve the needs of Manitobans”, the PUB is not in a position to
36 conclude the plan properly addresses one of its priority mandates.

1 **ISSUE TOPIC #1: Efficiency Manitoba Three-Year Plan Approval**

2 **ISSUE:**

3 As a result of this proceeding, the Public Utilities Board needs to decide whether to
4 approve the Efficiency Manitoba's three-year plan as indicated in Section 11(1) of *the*
5 *Efficiency Manitoba Act*, such that:

6 11(1) *The PUB must review an efficiency plan and make a report, with*
7 *recommendations, to the minister as to whether the plan should be*

8 *(a) approved;*

9 *(b) approved with suggested amendments; or*

10 *(c) rejected.*

11 **MIPUG SUMMARY AND/OR RECOMMENDATION:**

12 MIPUG recommends that the PUB approve, with suggested amendments, the plan put
13 forward by Efficiency Manitoba for efficiency programming for April 1, 2020 to March 31,
14 2023.

15 Specifically, the amendments that should be made to EM's plan include:

- 16 • The 1.5% efficiency target should not be accepted as required at this time, or in
17 any specific future year.
- 18 • The EM programming should generally be accepted by the PUB, with direction to
19 work to minimize spending on programs that exhibit unfavourable economics
20 (such as the following three bundles) and, if possible, increasing prioritization on
21 programs that exhibit very favourable economics (such as Industrial Custom and
22 Renovation bundles). Reducing programs such as the following should primarily
23 be absorbed by reducing the achievement of the 1.5% target:
- 24 ○ Less cost-effective programs within the Residential Direct Install,
25 Residential Product Rebates and Residential Home Renovation bundles
26 (including residential heat pumps which exhibit significant concerns for
27 failing to avoid loads at peak times).
- 28 • Remove barriers to participation for programs which are more cost-effective
29 (including caps on industrial programming – discussed further in Issue Topic #4).
- 30 • Accept budgets for low-income and hard to reach customers for electricity
31 programming.

- 1 • Contingency funding should be available to address any emerging opportunities
2 not included in the original plan that may emerge, including in particular cost-
3 effective industrial programming for new or expanding plants. This includes
4 added allocation to programs that may already have budget allocated (such as
5 the commercial or industrial custom programming bundle through removing
6 industrial programming caps).
 - 7 ○ The contingency fund, at approximately \$7 million, is a significant part of
8 total spending and EM's overall plan. If there are not cost-effective
9 options for this spending, EM should not spend the contingency amounts.
- 10 • EM's budgets should be generally approved on an interim basis, subject to:
 - 11 ○ Reduction related to elimination of programs that are not cost-effective or
12 represent the least cost-effective components of the Plan.
 - 13 ○ Additions to cost-effective additional industrial programming.
 - 14 ○ Recommendations for revision from the PUB following future investigation
15 at a Manitoba Hydro hearing, including consideration of:
 - 16 ▪ Revisions to marginal values, particularly for shorter-lived
17 initiatives. Also, a better understanding of the derivation and
18 relevance of the differing marginal values to the power resources
19 acquired by EM.
 - 20 ▪ More refined estimates of the rate impacts of EM's costs.
 - 21 ▪ A decision to implement rate impacts for other factors (such as
22 Keeyask) that limit the ability of ratepayers to absorb near-term
23 EM costs.
- 24 • Alternatively, MIPUG could also support approving EM's budgets on a shorter
25 horizon subject to further review by the PUB, if the PUB were to convene an IRP
26 or similar process within the 3-year horizon.

27 **DISCUSSION AND SUPPORT:**

28 What is the purpose of this review? As explained by Mr. Bowman in his direct
29 examination, it is the position of MIPUG that the PUB should consider in its
30 determination the broader context around efficiency programming and the EM plan:

31 **Mr. Patrick Bowman:** ... [W]hen we approached this hearing, we
32 assumed that the review was broad and would include policy questions
33 regarding efficiency in Manitoba generally. It is review of a plan, but it
34 is also, in our understanding, a review of the context for the plan and
35 the need for the plan as set out, as well as whether the plan is

Issue Topic #1: Efficiency Manitoba Three-Year Plan Approval

1 ultimately in the public interest in the broader context for what its trying
2 to achieve. I think that's somewhat different than Daymark's
3 comments, and I reference from transcript 1469, where I would view
4 their comments saying that this is a hearing about oversight of
5 Efficiency Manitoba and very much the question of, How does one put
6 incentives and managerial bounds on Efficiency Manitoba as an entity?

7 This isn't the same as a regulatory hearing. The Board won't issue
8 approvals. EM is not necessarily a regulated entity the same way the
9 Board would regulate hydro or other boards would regulate utilities.
10 And for that reason, we thought the Board's role might be somewhat
11 broader in terms of recommendations than Efficiency Manitoba's own
12 task.

13 And in that regard, I would – I put down the comment that I think
14 Efficiency Manitoba has fulfilled their mandate to produce a plan and
15 within the bounds that the Act tells them to produce a plan: find the 1 ½
16 percent electricity savings, spread it across the classes, and accept
17 Manitoba Hydro's data. Within those bounds, I think Efficiency
18 Manitoba has done its job, and we can assess them against their job.

19 But there's a broader public interest question which, I think, is before
20 the PUB, and some of my comments may go, effectively, beyond the
21 specifics of EM's own three (3) year plan. And I will say that it – when
22 we were asked by the clients to look at this, the clients' interests also
23 go beyond just the details of the programming in EM's plan.¹

24 The broader public interest nature turns on the issue of whether the 1.5% power savings
25 is in fact needed, and for what purpose. As noted by Mr. Bowman:

26 If it's about an opportunity to acquire some power we can sell to export
27 markets but we're actually spending more money than that power is
28 worth and driving up our rates, then you -- I think you'd have a pretty
29 significant question about whether that target is in the public interest.²

30 Investigation of rate impacts focused on the inadequacy of EM's calculation of the
31 Levelized Rate Impact (LRI) measure, which considered the concept that the EM plan
32 was paid for over 30 years regardless as to whether the programs in question had long
33 ended. Daymark addressed that this had two major weaknesses:

¹ Transcript from January 20, 2020, pages 2106 - 2108

² Transcript from January 20, 2020, page 2127

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1 First, Daymark noted that a long-term rate impact was not sufficiently informative to
2 understand trade-offs, particularly tied to near-term rate impacts, as follows:

3 **Mr. John Athas:** ... Many of the energy efficiency community people
4 will make a rate impact look a lot like the net present value impact,
5 because they don't -- they believe that if it's long-term benefits, that
6 they want -- that they don't want to move away from those long-term
7 benefits.

8 I've, as an integrated resource planner, always kind of thought of rate
9 impacts for energy efficiency programs as, Tell me what's happening to
10 me in the next, you know, three (3), four (4), five (5) years from the rate
11 impacts to see if I -- if it's going to be too painful to get to that long-term
12 savings, to be -- you know, that's - - to me, that's much more
13 informative and the like.³

14 Second, Daymark noted that EM's calculation of LRI was inappropriately simplified in
15 that it looked to all energy sold over the next 30 years to determine the costs of EM's
16 programs, even though many (most) of EM's programs are expected to provide no
17 benefit beyond 5-15 years, as follows:

18 **Mr. John Athas:** ... Okay, the analysis by -- of LRI was by -- starting
19 with how it was handled with Efficiency Manitoba is -- as it was laid out
20 in your report, is you take the present value of the cost, the present
21 value of the savings, the present value of the lost revenue and you
22 divide that by the present value of the kilowatt hours, all the kilowatt
23 hours sold during those -- that period and you have the LRI parameter,
24 okay.

25 And that was all the -- and then when - - but the present value of the
26 kilowatt hours was for thirty (30) years of kilowatt hours on the
27 denominator even though some of the programs were only having NP -
28 - the numerator numbers were only affecting things for as low as three
29 (3) to five (5) years and very few of them went up to thirty (30) years,
30 okay.

31 So, the way that we adjusted it to proper -- to account for measure life
32 is we essentially looked at the mea -- the buckets of measure life.⁴

³ Transcript from January 13, 2020, page 1283

⁴ Transcript from January 13, 2020, page 1570-1571

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1 As a result, MIPUG submits that the Board should reject EM's calculation of an LRI of
2 0.019 cents/kW.h. The updated Daymark calculation of LRI shows a value 3 times
3 higher, at 0.059 cents/kW.h.⁵ Further, this value still does not achieve the key
4 information that Daymark indicated it required, namely: "tell me what's happening to me
5 in the next, you know, three, four, five years from the rate impacts"⁶

6 In order to address the rate impacts, a full analysis by Manitoba Hydro in an Integrated
7 Financial Forecast would be required, particularly if one was to consider accurate
8 impacts by class. However, reliable estimates were provided by Mr. Bowman (and PUB
9 Advisors) in response to MIPUG Undertaking 17. That document reviewed that with
10 updated estimates of export pricing and corrections to the loads on which the EM costs
11 will be recovered (Hydro's sales at the meter), the third year rate impact could easily be
12 on the order of 0.194 cents/kW.h (or 10 times the LRI estimated by EM) which is a 3.7%
13 impact on customers in the GSL 30-100 kV class and a 2.0% on the residential class.
14 This is solely for the costs to run EM's first 3 year plan – these costs will then be additive
15 to the costs for EM's next 3 year plan, such that by year 5 or 6, the impacts could be
16 very significant.

17 Mr. Bowman also addressed the challenge for the Board in addressing EM's Plan, in
18 light of a lack of information on relevant Hydro considerations, such as the Hydro
19 Strategic Plan, Marginal Values properly aligned to short-term energy savings, Keeyask
20 rate impacts, or the limited ability of Hydro's net income to absorb any EM cost
21 pressures without directly passing these through to rates.⁷

22 I think without the IRP framework, the Basic need for power has not
23 been established beyond the government directive, and also we're in a
24 context where we all understand rates are being driven higher by
25 Keeyask. That will have its own effect on elasticities, customers
26 conserving just in response to the price signal of higher bills. We know
27 that Hydro has a low net income, which means it doesn't have the
28 ability to absorb EM's costs easily without driving up increases in rates.

29 This leads to Mr. Bowman's recommendations 1, 12 and 14 – do not accept the plan as
30 filed; target below 1.5% for first few years; and, reallocate program expenses away from
31 less cost competitive programs towards more cost-effective programs. Mr. Bowman's
32 recommendation 4 addresses the need for EM's budgets to be interim. Mr. Bowman also
33 addressed, at transcript pages 2241-2244, that when the recommendation was
34 prepared, he was not aware of options that may lead to the Board having a review after

⁵ Daymark Undertaking 12

⁶ Transcript from January 13, 2020, page 1283

⁷ Transcript from January 20, 2020, page 2137

1 a period of less than 3 years. If this were possible, Mr. Bowman noted the same
2 principles he espoused (consider EM costs in light of what is happening with Manitoba
3 Hydro marginal values, Hydro rate impacts, and updated IRP information) could be
4 similarly applied to a different shorter review horizon for EM.

5 In regard to the weaknesses of EM's Plan review in light of a lack of an updated IRP
6 plan, please see Issue Topic #2

7 In terms of priorities for programming, and the extremely cost-effective nature of
8 industrial programming shown in relation to many other classes (including residential
9 non-low income) - these are addressed in Issue Topic #4.

10 In regard to the contingency fund, issues arose regarding potential confusion of the
11 terms of the legislated provision, as follows:

12 9. For the three-year period following the commencement date, and for
13 each three-year period after that, Efficiency Manitoba must prepare an
14 efficiency plan that includes the following information:

15 ...

16 (i) a budget that sets out, for the three-year period,

17 ...

18 (iii) the amount reasonably required as a contingency fund to enable
19 Efficiency Manitoba to take advantage of emerging opportunities that
20 are not otherwise addressed in the plan,⁸

21 The issue of what qualifies as “emerging opportunities” has been canvassed with
22 somewhat different scope as the proceeding progressed. The final word on EM's
23 position comes from EM Undertaking 7 (responding to an undertaking from Transcript
24 page 990) which notes:

25 The Contingency Fund adds flexibility to the Plan to respond to
26 unplanned, and therefore unbudgeted, DSM opportunities that arise
27 during the Plan years. The proposed Contingency Fund budget is for
28 \$7 million dollars over the three years of the Plan, subject to
29 recommendations by the Public Utilities Board, and provides Efficiency
30 Manitoba with the flexibility and nimbleness to pursue cost effective
31 energy savings. An unplanned DSM opportunity could be considered a

⁸ Efficiency Manitoba Act s9(l)(iii)

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1 technology that has become ready for the market earlier than
2 anticipated or the emergence of an energy efficiency opportunity that
3 was not budgeted or planned for such as a new industrial plant
4 expansion, for example.⁹ [emphasis added]

5 MIPUG supports this latest version of EM's contingency scoping. This is in line with the
6 evidence of Mr. Friesen, as follows:

7 MR. DALE FRIESEN: My suggestion would be that the contingency
8 fund be available, particularly in instances where those savings would
9 be otherwise lost, and by 'lost' I mean if a customer would not proceed
10 with the energy efficiency initiative, the result would be the construction
11 of a less efficient facility or process, and the likelihood of that process
12 being returned to for energy efficiency would be in the long term, not
13 the short term.

14 So generally, industrial investments and processes and facilities are
15 quite large and with long lives, so if such an instance occurred, it would
16 not be unusual that that process would not be returned to for a period
17 of ten (10), fifteen (15), twenty (20) years before a major undertaking
18 could be had, in which case those savings would be lost.

19 So I would look at the cost-effectiveness of the measure. I wouldn't
20 suggest the use of the contingency for measures that are not cost-
21 effective, but I would suggest that for cost-effective lost opportunities, it
22 should definitely be used.¹⁰

23 As a result, MIPUG recommends approval of the scoping of the contingency as set out
24 in EM Undertaking 7, and the proposed budget of \$7 million, should it be required. The
25 use should be limited to cost-effective programs with substantially positive PAC and
26 Levelized Cost values. The funds should not be used to address simple cost overruns or
27 underperformance of EM programs. Also the fund should not be limited should EM have
28 already reached 1.5%, as cost-effective DSM opportunities may be lost, and the added
29 savings can be credited to future years.

⁹ EM Undertaking 7, page 3.

¹⁰ Transcript from January 20, 2020, page 2251

1 **ISSUE TOPIC #2: Efficiency Manitoba Plan Development Using Integrated**
2 **Resource Planning**

3 **ISSUE:**

4 The approval of Efficiency Manitoba's plan, including planned spending levels and
5 targeted savings, is difficult due to the gaps of information required to determine whether
6 the spending and savings is prudently undertaken over the next three years.

7 **MIPUG SUMMARY AND/OR RECOMMENDATION:**

8 Moving forward, Efficiency Manitoba's plan development should be based on need and
9 opportunity, as determined through an Integrated Resource Planning process including
10 both Manitoba Hydro and Efficiency Manitoba. Specifically:

- 11 • Annual and cumulative savings targets and EM planned savings, to be
12 recommended by the PUB, should result from Integrated Resource Planning.
 - 13 ○ Capacity requirements and capacity related efficiency programs (and
14 savings) should be included in this IRP process and subsequent EM plans.
- 15 • Re-investment and long-term persistence should be included in plan consideration,
16 as any extension of persistence factors will help encourage spending on long-term
17 efficiency measures, which help reduce resource need (as compared to short-term
18 efficiency programming with little to no persistence). Further, where appropriate,
19 multiple product life cycles should be considered for long-term efficiency
20 programming where it is expected that products or measures are replaced like-for-
21 like.¹
- 22 • Information will be needed to appropriately model IRP considerations:
 - 23 ○ Current marginal values – including an understanding of how marginal
24 values are calculated and what they represent. While MIPUG understands
25 that marginal values have confidential components based on Manitoba
26 Hydro planning and export activities, it is necessary for the sake of
27 understanding and proper plan development that the meaning and detailed
28 process for derivation of marginal values are properly understood by all
29 participants.
 - 30 ○ Consistent with multiple other regulatory jurisdictions, the PUB should
31 develop a confidentiality process to permit approved intervenors to be able
32 to review and assess the marginal value results (even if input data and
33 assumptions cannot be shared) to permit a proper testing of the cost-
34 effectiveness of EM's efficiency plans.

¹ Transcript (p. 2176 – 2177, 2284 – 2286), Exhibit 6 (revised) – Section 1.2.4 (p. 5), Section 3.2.4 (p. 37)

- 1 ○ EM should be instructed to undertake an Energy Efficiency Potential Study
2 to support refinement of future Three-Year Plans and consider the longer-
3 term opportunities for acquiring persistent energy savings.
 - 4 ▪ Considerable change has occurred in the market since the last
5 potential study undertaken in Manitoba (2010/11) with growing
6 maturity of technologies such as LED luminaires, solar
7 photovoltaics, etc. Building codes are evolving rapidly along with
8 technologies for enhancing building performance. Electric heating
9 equipment is experiencing rapid development and concepts such
10 as Beneficial Electrification are becoming more prevalent.²
 - 11 ▪ Government policies and consumer behavior are influencing
12 equipment manufacturers to expand marketing and availability of
13 energy efficient technologies.
 - 14 ▪ Concerns arise that without up to date information, EM will not be
15 able to properly target and measure cost-effectiveness.
- 16 ○ Efficiency Manitoba should be directed to work with Manitoba Hydro in the
17 intervening years before the next plan, to identify regional needs (mainly
18 distribution and transmission constraint identification) and develop
19 programming that specifically addresses these needs. This may include
20 targeting certain distribution level programs to only be available in certain
21 geographic regions.
- 22 ○ In the absence of this regional need identification, high marginal values
23 related to specific programming, that is understood to be a result of
24 deferred distribution or potentially transmission capital spending, should
25 not be considered uniform in terms of cost-effectiveness for implementation
26 across the province.
- 27 • For future reviews, alternative plans should be available to consider and adopt in
28 lieu of Efficiency Manitoba's main proposed plan. This should include plans that
29 achieve alternative savings targets and/or plans that include different
30 priorities/programming bundles (and different spending levels between customer
31 groups). This will help ensure the plan chosen has been properly vetted in review
32 by stakeholders.

33 **DISCUSSION AND SUPPORT:**

² Exhibit 14 – Slide 27, Transcript (p. 2195 – 2198), Exhibit 6 (revised) – Section 2.1.2 (p.8)

1 As discussed by Mr. Bowman first in his evidence and then in his direct examination, the
2 concept of an IRP framework was strongly advocated in the Board's NFAT Report which
3 is reviewed in detail in PUB/MIPUG-13. Of note, the PUB indicated:

4 Integrated resource planning is a regular practice in many jurisdictions. An
5 integrated resource plan determines what supply side and demand side
6 resource mix is in the best interest of electricity customers. The Panel
7 heard evidence that the best practices for integrated resource planning
8 involve placing every resource option on an equal footing and a public
9 consultative planning process. In contrast, Manitoba Hydro prepares an
10 annual Power Resource Plan that is not developed through a public
11 integrated resource planning process.

12 ...

13 The effectiveness of integrated resource planning in determining least-cost
14 combinations of resources cannot be overestimated.³

15 Critical to the PUB conclusion was the need for DSM to be compared on an equal footing
16 to other supply options, as follows:

17 In its resource planning, Manitoba Hydro added DSM to each alternative
18 plan it examined. By doing this, Manitoba Hydro effectively screened out
19 DSM as an independent resource to be evaluated against other generation
20 resources.⁴

21 Mr. Bowman concluded:

22 Notable from the development of EM's overall purpose and intent is that
23 the EM agency was intended to develop DSM programming that operated
24 in the fashion of an integrated resource plan. An IRP should consider what
25 resources are required, when, and what supply options (including, but not
26 limited to, DSM) best meet the resource need. The current proceeding is
27 too narrow to provide information to conduct any type of IRP consideration.
28 Instead, EM suggests that the Government of Manitoba has imposed the
29 target without regard to any IRP concepts, and abandoned the key link
30 between DSM and resource planning – which was the key criticism the
31 PUB made of Hydro in the NFAT report. This is a significant flaw in the

³ Public Utilities Board Report on the Needs For and Alternatives To (NFAT) Review of Manitoba Hydro's Preferred Development Plan, June 2014, page 34 of 306.

⁴ Public Utilities Board Report on the Needs For and Alternatives To (NFAT) Review of Manitoba Hydro's Preferred Development Plan, June 2014, Page 92 of 306.

1 current process and should not be permitted to drive material spending
2 commitments for the long-term.⁵

3 In oral testimony, Mr. Bowman expanded:

4 MR. PATRICK BOWMAN: ... There's been some comments about whether
5 this Hearing takes an IRP-type outlook, and my view is it does not. The key
6 difference is how 'need' is defined, and 'opportunity', and whether the range
7 of options being considered is really integrated.

8 In this case, the need is prescriptive, 1.5 percent a year for electric and, of
9 course, .75 for gas, and the range of options is limited to efficiency. This to
10 me is backward. It's a mirror image of the criticism of NFAT where -- and
11 probably worse, frankly, where in NFAT we said that the available solutions
12 was excessively narrow. At least there was a process to define 'need' and
13 'opportunity', but the range of options being considered was narrow
14 because it didn't include efficiency. In this case, we're doing the other side
15 of it.

16 Effectively, NFAT said you can do efficiency or don't do efficiency, it won't
17 affect my building plans. In this case, we're saying build, don't build, load
18 forecast up, down, it won't affect my efficiency plans. It's kind of the same
19 blinders problem.

20 Also, the IRP side is tied to the thoughts about cost-effectiveness. And, you
21 know, Efficiency Manitoba has applied a PAC test. The PAC test has been
22 correctly applied, from what I can see, and the -- it is a useful test for looking
23 at the overall life as to whether the power you're acquiring is cost-effective
24 and how it compares to other resources you could acquire. It's an
25 acquisition-type consideration.

26 What it's missing is wheth -- the question of whether we actually need to
27 acquire that power. And if you're not in a need situation to acquire the
28 power and you can't answer that question affirmatively, then you're into
29 much more considerations of opportunity, what is the opportunity to do
30 something that's beneficial.

31 And usually, the type of questions we would be asked is should we bother
32 to acquire this power because it'll make our overall costs and rates lower.

⁵ Bowman pre-filed Testimony, MIPUG Exhibit 5, page 16.

1 And that would mean much more reliance on the RIM or LRI-type tests
2 rather than the PAC screening type tests.

3 And we haven't had the type of information needed in this Hearing to be
4 able to understand the extent to which what EM is achieving in power
5 savings is in fact meeting a need deferring generation within a horizon that
6 we have a reasonable prospect of understanding and reasonable certainty
7 on, or whether it's more in the context of opportunity to do something and
8 whether that opportunity is worthwhile.⁶

9 In MIPUG's submission, in the absence of up-to-date knowledge about the need to acquire
10 resources, it is impossible to assess whether it is worth absorbing rate increases (which
11 could be quite material) to acquire the power.

12 Daymark as well concluded that IRP information was missing and was short-circuited by
13 the prescribed target in the legislation, and that as a result the current proceeding was
14 limited to details of procurement, and not the broader public interest associated with the
15 target:

16 MR. ANTOINE HACAULT: Am I understanding correctly, then, if we were
17 focused on DSM as a standalone resource and how much energy we were
18 going to save in the next thirty (30) years, we wouldn't have to say, the LED
19 bulb stops giving us savings in ten (10) years, because we know it's going
20 to give us savings in each and every year for the next thirty (30) years, until
21 we need the new resource. We don't have to pretend that the LED bulb all
22 of a sudden is going to go back to incandescent, and people are going to
23 breach codes.

24 MR. JOHN ATHAS: You -- you're talking about an analysis that I don't think
25 -- that we didn't consider that this was the forum for that. You know, that's
26 an appropriate thing. If you were doing resource planning analysis, and you
27 have an option to buy ten (10) year contracts on resources, and you have
28 to replace them in time, you're going to do all that stuff, and you might roll
29 it over a couple of times, like a ten (10) year measure. That's very
30 appropriate.

31 This seems to us about how Efficiency Manitoba is procuring the 1.5
32 percent and the .75 percent. That is -- and I -- and -- that has been

⁶ Transcript from January 20, 2020, page 2125-2127

1 established by the regulations in the Act in lieu of a number that's been
2 established by a resource planning or an IRP decision.

3 If -- it might be that the objective target to the procurer is the outcome of an
4 IRP, but there is a procurement phase that goes out that they still visit
5 economics. People that do an IRP that says go out and get a -- put solar
6 in, when they buy the solar capacity, or buy the product -- the facility and
7 stuff like this, they do an analysis of what the economics are, even though
8 was in -- it was analyzed somewhat within the IRP.

9 And I think that's where we are here. We're about how does -- how do we
10 want -- how do you guys want Efficiency Manitoba to act to procure the
11 target? That's been -- as I've said, that's been established by the Act and
12 the regulations in -- it seems to me, in lieu of an IRP.⁷

13 The challenge for the Board is that it is not clear how to ensure a proper IRP process is
14 completed, to ensure targets are in the public interest. Further, when and how would this
15 occur, and what implications this missing information has to the approval of the EM plan
16 today.

17 Daymark also expressed significant concerns about an insufficient planning process (IRP)
18 that would fail to consider all relevant horizons, short and long-term, and a high degree of
19 caution about undertaking the planning too late, and failing to sufficiently take into account
20 rate impacts:

21 MS. DAYNA STEINFELD: I'm going to do something which is probably one
22 (1) of the reasons of many -- why people hate lawyers, but I'm going to take
23 Mr. Athas's very eloquent and considered response about integrated
24 resource planning and -- and try to sum it up very simply, which is that
25 you're identifying when you need new resources and what resources you
26 should procure to meet that need?

27 MR. JOHN ATHAS: Yes, but --

28 MS. DAYNA STEINFELD: Fair enough, Mr. Athas.

29 MR. JOHN ATHAS: -- the -- very -- but -- no, but from a focal point of what
30 a lot of people do with IRP is they get focussed on the next need for a
31 shortcoming that -- of reliability. Like, if we don't have a need -- if we don't

⁷ Transcript from January 13, 2020, page 1470-1472

1 have an additional source in the case here of dependable energy water,
2 we're going to have a problem, you know.

3 But an IRP shouldn't be restricted to just that focal point, because the IRP
4 is also about managing costs all along the process, and managing -- and
5 then understanding rate impacts along the process, and other stuff like that.

6 So the -- and -- an IRP analysis that says, I mean, let's take -- let's put it in
7 this context. An IRP analysis that says, let's throw out any five (5) year
8 measures because, we don't need anything for twenty (20) years, that's a
9 bad IRP, because you're spending money all during the process.

10 You're -- you know, and if you could lower the -- if you can -- without closing
11 rate impacts and other stuff, if you could lower the bills in the -- from five
12 (5) year measures during that time period, the IRP should have seen that.

13 And you should want to do it, so that it's -- so -- because if you just get
14 focused on that need, that's the but, the long but, sorry.

15 MS. KATHLEEN KELLY: I might just add that IRP is a long-term planning
16 process, and it - - many utilities and jurisdictions wait too late to ask the
17 question. And it's a planning tool, a long-term planning tool. It gives all the
18 information John's speaking about, but it allows regulators like the PUB to
19 set policy.

20 And that tool is useful for looking at what are the implications of those
21 policies over time, and then assessing whether you're willing, in many
22 cases, to take a short-term rate increase to avoid something in fifteen (15)
23 to eighteen (18) years. So there's a lot of considerations that go into it. It's
24 but it's useful information. It's useful to be done. And as I said, many
25 jurisdictions do it at the wrong time.⁸

26 Mr. Bowman addressed the use of target setting and IRP in his Recommendation 2
27 regarding the use of a resource acquisition model for testing EM's plans⁹, and in
28 Recommendation 3 which focuses on ensuring EM's plans are tested against the EM
29 mandate, to "mitigate the impact of rate increases and delay the point at which capital
30 investments in new generation and transmission"¹⁰ will be required.

⁸ Transcript from January 13, 2020, page 1654-1656

⁹ MIPUG Exhibit 13, page 18.

¹⁰ Efficiency Manitoba Act, s. 4(1)(c).

1 Mr. Bowman's Recommendation 5 reviewed the concept that future EM reviews should
2 include IRP information. Mr. Bowman's IR responses provided more detail on this
3 interpretation:

4 The issue for Manitoba is that the PUB likely has limited jurisdiction to
5 include IRP as part of Manitoba Hydro's rate reviews. As part of EM
6 reviews, however, there appears to be no such limitation on the matters the
7 PUB can scope in related to IRP. In fact, without suggesting a legal opinion
8 on the matter, section 11 of the EM regulations, particularly subsections
9 (d), (e), and (g) appear to not only permit, but effectively require, the PUB
10 to scope in matters of IRP.

11 The process should include developing minimum filing requirements for
12 EM's next proceeding, including any needed documentation or sworn
13 testimony from Manitoba Hydro. This would include load forecasts with
14 scenario analysis, Manitoba Hydro's latest resource plans and marginal
15 values under varying circumstances, for full and proper testing as they
16 relate to EM's plans (which does not appear to be in any way limited by
17 section 12(1)(b) which only requires that Manitoba Hydro set the
18 methodology, not the input assumptions or complement of resource options
19 to be assessed).¹¹

20 MIPUG submits that Mr. Bowman's interpretation may be excessively narrow, should the
21 PUB decide to pursue the potential to initiate an IRP review during the upcoming period
22 via another route. Examples of how this could be achieved may include recommendations
23 to Government coming out of the current EM review, to initiate a new PUB investigation
24 under s.107 of *The Public Utilities Board Act*.

25 Mr. Bowman's Recommendations 10 and 13 also note the need for least cost planning,
26 and the consideration of alternative levels of DSM, both of which would be consistent with
27 properly structured IRP analysis.

28 Within an IRP, or in any related investigations including Manitoba Hydro GRAs, there is a
29 need to advance the state of the art applied to confidential materials in electric utility
30 regulatory processes in Manitoba (perhaps adopting more aspects of the process used in
31 Centra Gas proceedings). This need not be to the detriment of Hydro's ability to negotiate
32 with counterparties. But the present working approach to dealing with the Marginal Value
33 information results in serious difficulties to all parties in their ability to help the Board fulfill

¹¹ PUB/MIPUG-13

1 its public interest mandate and to confirm that appropriate analysis is occurring. As noted
2 by Mr. Bowman:

3 MR. PATRICK BOWMAN: ... Marginal values were -- are -- clearly an
4 important factor in this Hearing. The Hearing is constrained.

5 And I don't -- I think it's important to not address this as a sort of gripe
6 session, if you like, but it's clear that in the derivation of marginal values
7 requires confidentiality on many aspects like export contracts being
8 negotiated. There's no doubt that Hydro could be harmed by, you know,
9 excessive release of information when they're trying to negotiate
10 something.

11 The other side is the regulations clearly limit the marginal values being
12 used to those determined by Manitoba Hydro; that is the word. And I'm not
13 suggesting that we need to spend this entire Hearing or any part of this
14 Hearing trying to challenge whether Hydro has determined the values
15 correctly, but it doesn't preclude the need to have an understanding of the
16 basis of how they're derived and what those numbers really mean.

17 And I was giving a couple of examples here. You know, are the -- there's
18 one (1) question I address here, is are the marginal values being used
19 correctly. In order to know that, I think there's further information needed
20 about the marginal values.

21 For example, Hydro's marginal values when we've been able to see their
22 derivation going back many years, the last time they - were actually -- that
23 information was made available, the report we have, and, also, the way
24 they've been described since then, Manitoba Hydro relies on long-term
25 resource planning, over thirty (30) or more years, to derive its marginal
26 values. And it would -- what it will do is it will run a power resource plan that
27 looks at the long-term, what we have to build, what we can commit, the
28 exports we can make. And then it will change the load and rerun that plan.
29 And it'll say, as a result of changing the load, what is the overall economics,
30 how much did the overall economics change. And they can change the load
31 in different ways to test the way the economics change, but they're running
32 it over a very long-term plan, to take a look at it.

33 If your -- EM's program is only five (5) to ten (10) years, does that savings
34 -- is that savings being appropriately modelled if you're picking up a value
35 that assumes that it's a very long-term change but the program you're

1 running is only five (5) to ten (10) years. So that's a concern about a
2 possible mismatch in that.

3 In support of the -- my understanding that that is the way Hydro is doing
4 things, there was a comment that there's no on peak/off-peak values. Mr.
5 Harper addressed this, and it's been confirmed in IRs that the energy is not
6 valued differently at on-peak times versus off-peak times.

7 And that's because when you're running those long-term scenarios, that
8 doesn't -- on-peak and off-peak doesn't matter much. They don't run
9 resource plans at a level that is going to look at what an on-peak kilowatt
10 hour's worth versus an off-peak, because it ultimately assumes that you
11 can do some balancing of that with your imports and exports and with your
12 water. You can generate power at different times, turn your generators,
13 particularly hydraulic, up and down. And so over the long-term, on-peak
14 versus off-peak power is not that big a deal, if they're even able to get a
15 visibility into it.

16 But over the short term, it's a very big deal, and we can see that in the SEP
17 prices approved by this Board every week. The value of a kilowatt hour
18 used in the on-peak is very different than the value of the kilowatt hour used
19 in off-peak, and particularly, when you're talking about horizons of -- that
20 EM is looking at for many of their programs, like five (5) years. And so the
21 concern about the -- not understanding the -- what is the derivation and
22 what's in the marginal values is that tho -- they -- Efficiency Manitoba may
23 be misapplying them.

24 The other comment here is that when Hydro's deriving its marginal values,
25 it's running them out of a power resource plan that's looking at need dates
26 well into the future, and the power resource plan is ultimately about
27 considering, When do I need to build something so the lights don't go out
28 in Manitoba? And as a result, it has a lot of conservatism built into those
29 assumptions. And people who were here for NFAT will remember things
30 like import limits. Hydro will not run its power resource plan assuming it can
31 import anything during the day during a drought or assuming it can exceed
32 10 percent of its load as imports during a drought. And it does that because
33 you wouldn't want to be exposed to the market that much on a planning
34 basis during a drought when you're thinking about when your next plant is
35 needed.

36 In practice, when a drought occurs, they're going to take every kilowatt hour
37 they can get. They will -- you know, the resource plan will run Hydro's own

1 gas generators, but if they can pay someone else to run gas generators to
2 either fulfill export contracts or to import the power during the day, during
3 the night, any time, they'll take it, because they run the system on -- the
4 most cost-effective way. And that is much more the operating or short-term
5 planning context that would be relevant for some of the horizons of the type
6 of programs EM is running.

7 The conservatism side means that Hydro's marginal values will tend to
8 come out higher because they make assumptions about what the system
9 will require.

10 Now, if we were in a need date, where we were close to the horizon for
11 needing a new plant and we were -- EM's programs were effectively
12 deferring something in the horizon in which the programs are running, then
13 that would be relevant, because those conservatism is also built into the
14 decision that you're making about bricks and mortar.

15 But if we're not in a need context, then the effect of EM's plans, particularly
16 those that are shorter term, won't swing Hydro's long-term export contracts.
17 It won't swing ten (10) year commitments to Minnesota Power or whatever.
18 It will ultimately swing shorter-term export transactions or change spill
19 levels during a flood or change fuel usage during a drought. And those have
20 -- those do have much more of an operating perspective on them.¹²

21 The end result is that, even if the derivation of marginal values are not being challenged,
22 added information is necessary to confirm EM (and any future IRP) is appropriately
23 reflecting the benefits and limits on power resources made available to Hydro's system.

24 Note that in the present proceeding, even the scope given to Daymark did not include any
25 need to understand the above key issues:

26 MR. JOHN ATHAS: ... What was not in our scope was any work to
27 understand, derive, and other things, the marginal values or the avoided
28 costs associated with the -- from Manitoba Hydro that are associated with
29 the cost-benefit analysis with the programs.¹³

30 And in an even clearer statement of the limitation of Daymark's view of their scope and
31 the limitations tied to their review of marginal values:

¹² Transcript from January 20, 2020, page 2127-2131

¹³ Transcript from January 13, 2020, page 1247

1 MR. JOHN ATHAS: We were asked to make sure that there were numbers
2 in the marginal-value cells.

3 MR. ANTOINE HACAULT: Yeah.

4 MR. JOHN ATHAS: And that they were being multiplied by the right -- by
5 stuff to get savings.¹⁴

6 In short, the Board should take no comfort in the quality or assessment of marginal values
7 in the current proceeding. A considerably better assessment is required to justify spending
8 of the scale proposed by EM going into future review.

9 On the matter of regional needs, Mr. Bowman noted the following when discussing the
10 marginal value of wires (distribution and transmission):

11 MR. PATRICK BOWMAN: ... But it raises another concern we're going to
12 talk about in a minute, which is, if a significant amount of the benefit is
13 coming from avoiding distribution system upgrades, avoided distribution
14 marginal costs, one of the limitations of what EM is doing and the
15 information Hydro's giving them is it will have a broad distribution measure
16 which is coarsely applied across the province.

17 And if you look into how that measure's derived, it will be done by looking
18 at the fact that, in some places, there are distribution constraints.

19 And if we can get the peaks down, Hydro won't have to invest as much in
20 distribution. But it means that the distribution marginal values are very
21 location specific. So, if St. Vital is tight on distribution capacity, avoiding
22 load growth in St. Vital is hugely valuable because you can put off upgrades
23 for a few years.

24 But if Brandon has lots of distribution capacity, then avoiding upgrades in
25 Brandon won't generate this ten point six five (10.65) in savings.

26 ...

27 If you're going to run the home renovation program, you're going to say
28 there's this average distribution savings, which is valuable, but we don't
29 have a good assessment of where that's valuable. So if you're running that
30 program, it may be that that program really needs to be run in a targeted
31 area of Manitoba where you get a distribution benefit, and it'd be worth

¹⁴ Transcript from January 13, 2020, page 1454

1 even more than ten point six five (10.65). But let's not spend a lot of time
2 trying to run that program in other areas. And that's not uncommon. There
3 are places that run DSM programming that focus only on certain areas
4 where the transmission or distribution is key.¹⁵

5 The same issues arise with respect to transmission, underlining the need for proper
6 regional analysis of the potential for capital deferral.

7 On the matter of an updated Potential Study, Mr. Friesen addressed the need in oral
8 testimony:

9 MR. DALE FRIESEN: ... Potential studies provide insight into the saving of
10 opportunities and the capacity to support future savings targets and
11 conservation objectives. The last conservation potential study done in
12 Manitoba was based on information acquired in the 2010/'11 time frame,
13 nearly ten (10) years ago. The market has changed.

14 We're talking about an energy market and opportunities for energy
15 efficiency that didn't exist in 2010/11. We have the maturity of LEDs, we
16 have solar -- mature so -- solar photovoltaic technologies, we have other
17 technologies achieving wide-scale acceptance maturity that simply weren't
18 in the market in 2010/11.

19 We also have rapidly evolving technologies pertaining to energy storage,
20 electric vehicles, high-performance net zero buildings, heat equipment with
21 higher coefficients of performance, along with concepts such as beneficial
22 electrification, that all were not in the market in 2010/11.

23 And we also have regulated and non- regulated codes and standards that
24 are focused on outcome-based objectives versus, you know, the current
25 approach, which is objective-based in that the current codes use very
26 prescriptive terms to try and predict future outcomes or achieve future
27 outcomes. Outcome-based codes require you to measure those codes and
28 valid -- those code savings in standard savings and validate them and
29 maintain them on an ongoing basis to ensure that you have persistence.

30 here is a considerable amount of work going into this area right now, and
31 you're starting to see the term outcome-based objectives integrated into
32 the energy efficiency regulation and you're starting to see it more recently

¹⁵ Transcript from January 20, 2020, page 2123-2135

1 in ener -- building energy codes and performance-based approaches to
2 achieving energy efficiency in buildings.

3 We also have government policies and consumer demand changes that
4 are heavily influencing equipment manufacturers to expand the marketing
5 and availability of energy efficiency equipment, providing greater
6 opportunity for consumers to reduce their energy consumption and
7 manage their demand on the utility grid.

8 You or I can walk into Home Depot and we have a vast array of products
9 available to us that were not there in 2010/11. For those reasons, it's
10 important that we have a solid understanding of consumer behaviour in
11 respect to energy consumption, procurement, and the environment, and
12 that viewpoint within the market has evolved considerably, leading to
13 significant market changes. We need to have that perspective going
14 forward.¹⁶

15

16

¹⁶ Transcript from January 20, 2020, page 2195-2197

1 **ISSUE TOPIC #3: Other Items for Consideration in Review of EM's Plan**

2 **ISSUE:**

3 Outside of plan development and PUB Approval, the PUB needs to consider and provide
4 direction on a number of other issues regarding EM's plan.

5 **MIPUG SUMMARY AND/OR RECOMMENDATION:**

6 MIPUG discrete issue recommendations include:

- 7 1. Codes and Standards are an important and effective contributor to energy
8 efficiency savings. The Board should find that all energy efficiency codes and
9 standards savings should be included in the calculation of savings.
 - 10 ○ The Efficiency Manitoba Regulation 8(c) regarding when savings can be
11 counted towards the target, states that, "to a code, standard or regulation
12 to which Efficiency Manitoba or Manitoba Hydro has made a material
13 contribution." EM's levels of contribution to codes and standards should
14 not prohibit the counting of related savings. Determination of "material
15 contribution" in this respect is highly speculative and not relevant to
16 achieving cost-effective savings.
 - 17 ○ The requirement for "material contribution" should be removed from the
18 EM Regulation
- 19 2. Moving forward codes and standards activities should be prioritized by EM.
- 20 3. EM should include savings from new industrial customers compared to baseline
21 of what processes and technologies would have been reasonably adopted
22 absent EM's programming.
- 23 4. Any recommendation regarding assignment of costs of gas programming against
24 electric customers (related to interactive effects) should not be accepted.
 - 25 ○ EM should not be required to achieve savings to offset interactive effects
26 over and above the 0.75% gas target.
 - 27 ○ Analysis of the cost effectiveness of electrical programming should
28 include the impacts of participants from increased gas bills. This may
29 more accurately portray the true paybacks for some electrical customers,
30 particularly small commercial and residential.
- 31 5. In considering the measurement of attained and projected energy savings, EM
32 should include elasticity impacts. This includes both from Hydro rate changes
33 and all efficiency rate structures that may be adopted by Hydro.
- 34 6. Regarding the base load used to calculate energy savings percentages, MIPUG
35 accepts Mr. Harper's calculation proposed in this proceeding (with minor
36 adjustments filed in Efficiency Manitoba's rebuttal evidence page 12). This
37 approach was also accepted as valid by Efficiency Manitoba as long as its
38 consistently applied.

- 1 7. For the determination of the legislatively set 22.5% cumulative target, it should be
2 made clear that this is a simple sum of the new savings achieved each year, and
3 is not inclusive of persistence effects.
- 4 8. Rate impacts should be a material component of future EM plan reviews,
5 including near-term (next 5 years) reflecting proper analysis of Manitoba Hydro's
6 accounting for EM's costs.
- 7 ○ This is further addressed in Issue Topic #1.
 - 8 ○ The rate impacts are real and likely of a significant magnitude to be a
9 concern to ratepayers.
- 10 9. As Efficiency Manitoba costs are incorporated into electricity rates, there should
11 be a consideration for transmission and distribution specific spending within the
12 Manitoba Hydro Cost of Service methodology, reflecting the relative drivers of
13 EM's spending and calculated marginal values.

14 **DISCUSSION AND SUPPORT:**

15 **Codes and Standards**

16 Codes and Standards savings provide the same benefits attributable to incentive-based
17 program savings at considerably less cost to the utility with greater guarantee of
18 persistence in the long term. As discussed by Mr. Friesen in direct examination, the
19 Canadian Standards Association (CSA) includes a comprehensive package of regulated
20 codes and standard.¹

21 Codes and Standards savings from all sources relevant to Manitoba should be included
22 in savings counted towards achievement of annual savings targets. These savings
23 should be reported in full, reflecting the benefits achieved.²

24 The requirement for a “material contribution” from EM should be removed from the
25 Regulation.³ As noted by Mr. Bowman:

26 MS. DAYNA STEINFELD: On Slide 20, Mr. Bowman, your
27 recommendations suggests that savings achieved by other parties other
28 than Efficiency Manitoba should count towards the savings targets,
29 correct?

30 MR. PATRICK BOWMAN: Yes.

31 MS. DAYNA STEINFELD: Are you able to provide the Board with more
32 information about how that would work in practice?

¹ Mr. Dale Friesen direct examination, MIPUG Exhibit 14 – Slides 28 – 33, Transcript (p. 2199 – 2200)

² MIPUG Exhibit 14 – Slides 28, Transcript (p. 2198 – 2200)

³ MIPUG Exhibit 14 – Slides 28 - 29, Transcript (p. 2200 – 2202)

1 MR. PATRICK BOWMAN: Well, I think that how it would work in practice
2 is someone would take out the words "material contribution" or
3 "operational support" or that type of thing from the regulations and we'd
4 stop trying to think that this is about holding Efficiency Manitoba's feet to
5 the fire, and instead we're trying to achieve overall conservation.

6 If we come here in three (3) years and one of the big debates is do they
7 attend enough meetings to claim credit for the code -- new code on
8 dishwashers, I think that'd be a real unfortunate waste of time.

9 If someone agrees there's a new code on dishwashers and it's saving a
10 lot of energy, did they provide material contribution? I'm not sure what
11 that means in the context of how many parties have to get together to
12 implement that.⁴

13 Mr. Friesen notes that the development of codes and standards is not a 'one-company
14 show' and that it includes multi-party cooperation to develop the federally developed
15 regulation. This should not limit the inclusion of these activities in EM's plan:

16 MR. DALE FRIESEN: ... So when we look at claiming versus reporting of
17 codes and standards savings, I want to highlight that multi-party
18 corporation -- cooperation is required to fund and develop codes and
19 standards and facilitate their implementation. That makes it rather
20 awkward for any one (1) party to suggest their contribution is material to
21 the achievement of the related energy savings.

22 This isn't a one-man show or a one-person show or a one-company
23 show. We need to understand this is a collective effort. The process for
24 claiming savings based on material contributions does not align with the
25 processes that recognize the impact that codes and standards have on
26 energy consumption.⁵

27 In regards to the large potential of codes and standards, note that EM has yet to properly
28 and fully account for codes and standards benefits, as noted by Ms. Kuruluk:

29 MS. DAYNA STEINFELD: And given the magnitude of codes and
30 standards savings that are required to meet the savings targets, is there a
31 – a risk that the independent assessor will not accept savings like these
32 where participation on a committee was the involvement?

33 MS. COLLEEN KURULUK: I'm not anticipating that only because there's
34 quite a few other jurisdictions that do similar types of descriptions of their

⁴ Transcript from January 20, 2020, page 2278-2279

⁵ Transcript from January 20, 2020, page 2200-2201.

1 materiality towards contributing. There's also several jurisdictions in
2 Canada that take 100 percent of the code or standard.

3 So Efficiency Manitoba's not quite taking a hundred percent, so we think
4 we've been fairly conservative.

5 In addition, we do a lot of standards work at the national level, but at
6 present, due to the way that Manitoba Hydro had been determining what
7 the impact of standards was on the load forecast, we haven't even started
8 to look at how we should be claiming the standards that have been
9 implemented in the commercial market.

10 So we've only done residential standards thus far, and it will be an area
11 where we need to do some further work and get some further
12 methodologies in order to start determining how we can actually claim
13 those savings.

14 So technically speaking, I feel like we've been fairly conservative on the
15 codes and standards impacts.⁶

16 MIPUG encourages the PUB to provide a recommendation to Government to clarify the
17 Regulations such that it is clear Codes and Standards savings are important, prioritized
18 and recognized in Manitoba as an effective tool to persistent energy savings and to
19 remove the impractical test of contribution, consistent with Mr. Bowman's
20 Recommendation #6.

21 **New Industrial Customers**

22 Mr. Bowman's Recommendation #8 addresses new industrial customers and the need to
23 accept a baseline of what processes and technology would have been adopted absent
24 EM's work with the customer:

25 MR. PATRICK BOWMAN: ... This one is one (1) that I believe has
26 already been adopted by EM but isn't necessarily clear in the regulations.
27 The regulations focus on savings from existing levels. When you have a
28 new industrial customer arrive, that industrial customer will have the issue
29 of what technology to put in their plant, what conversation measures to
30 built into their plant, and those can be effected as a conservation
31 measure, but they're not against a baseline of previous use because they
32 never installed the inferior technology in the first place.

33 And my understanding is EM's already intending to count those type of
34 initiatives, but the regulations may be less than clear as to how you would
35 count those initiatives.

⁶ January 7, 2020 , pages 528 - 529

1 And certainly in cases like BC, where you have a tariff supplement 74, it
2 will say things, like, the savings due to customers implementing a
3 technology that's better than would have reasonably been expected is a
4 conservation savings.

5 And I think that's the same type of thing that I understand EM is pursuing.
6 And I'd just be concerned that the rates are consistent with that.⁷

7 MIPUG considers that the PUB should recommend to government language for the
8 regulation that ensures this form of savings is not discounted in testing EM's progress
9 against targets.

10 **Interactive Effects**

11 EM calculates the interactive effects of electricity and natural gas, where electricity
12 programming leads to increased natural gas usage (as efficient products will eliminate
13 waste heat), as offsetting natural gas efficiency targets. Shown on slide 15 of their direct
14 presentation (EM Exhibit 21), this results in an additional 0.11% of planned annual
15 natural gas savings to offset and still meet the target (i.e. EM plans to achieve 0.89% in
16 savings, offset by 0.11% interactive effect, to hit 0.75% target). Of note, industrial
17 electricity programming does not have natural gas interactive effects prescribed to it.⁸

18 Daymark provided the following recommendation in their testimony:

19 MR. JOHN ATHAS ... Where this has gone in their reporting of the
20 information is when they report an overall effect of cost- effectiveness of
21 the natural gas program, at – some of the metrics actually reduce the
22 savings and thus reduce -- and make the metrics less favourable because
23 they capture the cost of the increase natural gas that came from the
24 electric programs.

25 We think that calculation kind of blurs things and is really not the way you
26 want to do it, you would rather take the cost of the increased natural gas
27 and have that show up on the electric portfolio as making the electric
28 portfolio less cost effective so I think it's important to net out that from
29 your savings targets and natural gas, but if you're doing any economic
30 analysis, the gas increases from the interactive effects of electric
31 programs should be something that's kept for economic analysis within
32 the electric portfolio.⁹

33 MIPUG notes that this is a consideration that should be taken into account at plan
34 development for electricity, in testing the participant economics (e.g., paybacks).

⁷ Mr. Bowman direct testimony transcript pages 2147 - 2148

⁸ Confirmed by Mr. Friesen on transcript pages 2169 - 2170

⁹ Transcript pages 1273 - 1274

1 However, interactive effects should not lead to added natural gas programming to 100%
2 offset the effect. The effect is simply a load change that will get calculated into future
3 targets (at the 0.75% level).

4 Interactive effects should also not lead to any assignment of gas program costs to the
5 electricity ratepayers. This would be an inappropriate cross-subsidization of the two
6 utility services, which is not consistent with good utility practice.

7 **Elasticity**

8 On the matter of elasticity, rate change impacts can serve to reduce energy consumption
9 and should be considered in the context of efficiency targets. As Mr. Bowman explained
10 in his direct examination:

11 MR. PATRICK BOWMAN: ... EM's regulations permit EM to claim credits
12 from a rate to which EM has made a material contribution, again noting
13 whatever that means. It could be read as meaning a new rate design but
14 not a general rate impact. I suggest that the conservation effects of Hydro
15 rate increases, rate changes, including elasticity effects, should be
16 included in conservation when they are arising from customers
17 conserving in response to price changes.

18 And if that were the case, it would have a complimentary impact that, if
19 Hydro were to come in with large rate increases, you know, such as the
20 round we saw recently where they were asking for 7.9 percent, for
21 example, that may, therefore, mean that, in those years, EM need not run
22 -- make a whole lot of additional investment and drive a lot of additional
23 rate impact because a lot of it's already being achieved by a pricing side.

24 And that would effectively be complimentary in buffering somewhat to
25 Hydro's impacts, and it would still achieve the conversation objectives or
26 more.

27 Rate design in particular should be included and EM should be
28 encouraged to work with Hydro to put in place things like conservation
29 rates, although I'm not sure how they make a material contribution to
30 that.¹⁰

31 As noted in cross-examination, the incorporation of elasticity from real price changes
32 should be considered for future plans, when assessing whether the 1.5% targets have
33 been met (or exceeded), and whether future years need target 1.5%.¹¹

¹⁰ Mr. Bowman direct testimony transcript pages 2146 - 2147

¹¹ As discussed in cross-examination between Ms. Steinfeld and Mr. Bowman, transcript pages 2273 - 2278

1 **22.5% Cumulative Target**

2 In considering the cumulative savings achieved, Efficiency Manitoba's Regulations state
3 both the annual 1.5% electricity savings target and the broader cumulative 22.5% target
4 for 15 years. This issue applies for the natural gas target too (0.75% per year compared
5 to 11.25% over 15 years). Section 7 of the Act provides that:

6 **Initial savings targets**

7 [7\(1\)](#) Subject to the regulations, the annual savings targets that
8 Efficiency Manitoba is responsible for meeting in the 15-year period
9 following the commencement date are as follows:

10 1. Electrical Energy

11 In the initial year following the commencement date, net savings that are
12 at least equal to 1.5% of the consumption of electrical energy in the
13 preceding year.

14 In each of the following years, incremental net savings that are at least
15 equal to 1.5% of the consumption of electrical energy in the immediately
16 preceding year.

17 2. Natural Gas

18 In the initial year following the commencement date, net savings that are
19 at least equal to 0.75% of the consumption of natural gas in the preceding
20 year.

21 In each of the following years, incremental net savings that are at least
22 equal to 0.75% of the consumption of natural gas in the immediately
23 preceding year.

24 **Targets are cumulative**

25 [7\(2\)](#) Shortfalls or surpluses in annual net savings carry forward during
26 the 15-year period under subsection (1) such that at the end of the period
27 Efficiency Manitoba must demonstrate that the cumulative total of the
28 annual percentage savings in the consumption of

29 3. (a) electrical energy is 22.5%; and

30 4. (b) natural gas is 11.25%.

31 **Calculating net savings**

32 [7\(3\)](#) Net savings for the consumption of electrical energy or natural
33 gas are to be determined in accordance with the regulations.

34 Efficiency Manitoba's plan focuses on the annual targeted savings of 1.5% and 0.75%
35 for electricity and natural gas respectively. EM's planned programs have varying lengths
36 of effectiveness before the savings expires, but in general many of EM's electric

1 programs may not persist over 15 years. As a result, as shown in Daymark's figure
 2 below (from Daymark-7, slide 82), lasting impacts of EM's 2020/21 to 2022/23 plan will
 3 not result in cumulative 22.5% savings in 15 years. This is discussed in detail in cross-
 4 examination between Mr. Athas of Daymark and Ms. Steinfeld.¹²

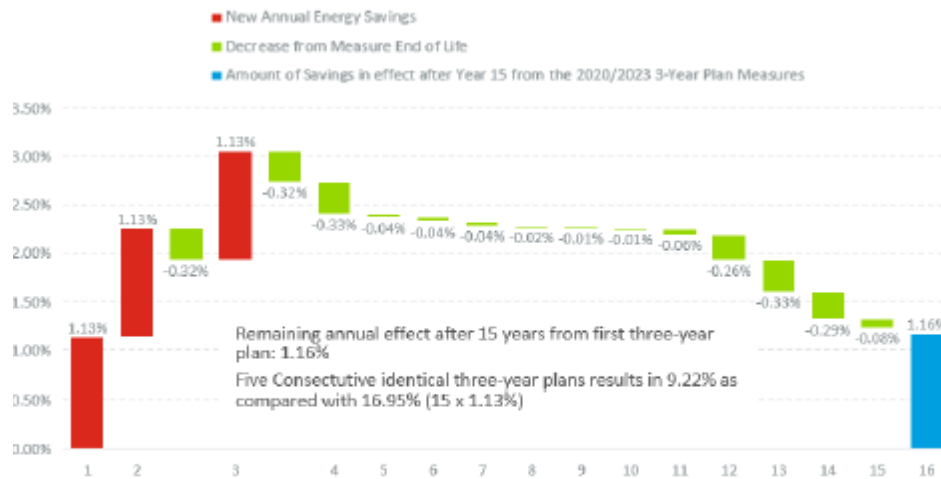


Figure 20: Savings in effect after year 15 from electric 2020/23 Plan measures

5
 6 For the purposes of EM's 3 year plan, Mr. Bowman noted in his direct examination in
 7 respect to calculating overall savings:

8 MR. PATRICK BOWMAN: ... Now, that's assuming that the 22.5 percent
 9 policy target is meant as the sum of the fifteen (15) years of savings. And
 10 as I read the legislation with a mathematic hat on, not a legal hat, I can't
 11 see any other way to read it other than I will add up a series of 1.5s or
 12 thereabouts to try to come up to 22.5 and that the 22.5 will not try -- take
 13 into account persistence or programs dropping off.

14 And it's not meant to be cumulative because, if it was, it wouldn't be 1.5
 15 for fifteen (15) years. You'd have a -- you would already have a
 16 compounding effects that would be in that.

17 So, the only way I can make sense of the 22.5 in the regulations is it's
 18 meant to be a sum of the savings each year. And not -- notwithstanding
 19 that that's not consistent with the idea of quite of an IRP framework,
 20 where you get to the end and you haven't necessarily achieved a load
 21 22.5 percent lower than it would have been because of things like
 22 persistent effects.

¹² Transcript pages 1636 – 1644 from January 14, 2020

1 But assuming that the read is correct, that it's a sum of fifteen (15) years,
2 across those fifteen (15) years, EM should have a fair bit of flexibility to
3 balance, to take into account major new initiatives that can occur or major
4 new customers, particularly on the industrial side, who provide them
5 opportunities, and that 1.5 need not be achieved even on a planning
6 basis in full as part of each annual plan.¹³

7 **Rate Impacts**

8 MIPUG recommends that rate impacts should be considered by the PUB and
9 participants in the context of reviewing Efficiency Manitoba's plans.

10 As noted by Mr. Bowman in his Pre-filed Testimony:

11 The [*Efficiency Manitoba*] Act specifically notes that the long-term purpose
12 of Efficiency Manitoba is to achieve rate benefits for Manitobans, as per
13 the Mandate section of the Act, section 4(1)(c): "The mandate of
14 Efficiency Manitoba is to ... mitigate the impact of rate increases and
15 delay the point at which capital investments in major new generation and
16 transmission projects will be required by Manitoba Hydro to serve the
17 needs of Manitobans." At this time, there is no prospect of rate increases
18 tied to future capital investment for bulk power that can be avoided.¹⁴

19 Rate impact analysis provided by Mr. Bowman in his evidence (MIPUG-5-1) and further
20 updated in Undertaking #17 (MIPUG-15), was argued as out of scope by Efficiency
21 Manitoba in its Rebuttal Evidence due to the focus on short-term rate impacts. MIPUG is
22 of the view that short-term rate impacts are very important for consideration of each of
23 Efficiency Manitoba's plans to ensure overall planned spending is beneficial for
24 customers. This holds especially as additional plans are anticipated that will layer on rate
25 impacts. While there may exist very long-term cost benefits of Efficiency Manitoba's
26 plans these are still very uncertain given the lack of assessment undertaken on marginal
27 values, lack of Integrated Resource Planning and general lack of review of alternatives,
28 all discussed in Issue Topic #2. What is known is that spending undertaken in the next
29 three years will be recovered from ratepayers.

30 The issue of how to review rate impacts is discussed in Issue Topic #1.

31 **Distribution Considerations**

¹³ Mr. Bowman direct examination, transcript pages 2149 - 2150

¹⁴ MIPUG exhibit 5-1, pdf page 15 of 31

1 As noted by Mr. Bowman in his oral testimony, some of EM programming heavily
2 depends on avoiding distribution system upgrades and avoided distribution marginal
3 costs.¹⁵

4 While not specifically relevant to these proceedings the fact that some residential
5 programming has potential to provide such high distribution benefit (as assessed by
6 Efficiency Manitoba and/or Manitoba Hydro in its development of marginal values) as
7 Efficiency Manitoba costs are incorporated into electricity rates, there should be a
8 consideration for distribution specific spending within the Cost of Service methodology
9 and cost allocations.

¹⁵ For example, transcript pages 2118 – 2124, in reviewing slide 7 of MIPUG-13 and review of some residential programs (including the home renovation program) that are based on very high distribution marginal value benefits for their cost-effectiveness

1 **ISSUE TOPIC #4: Industrial Efficiency Programming**

2 **ISSUE:**

3 The PUB needs to consider in its approval of EM's plans the spending, program options
4 and targeted levels of savings by customer segment. MIPUG's focus for this review was
5 on the industrial sector opportunities and impacts.

6 Further, potential rate impacts as a result of EM's plans are of fundamental importance
7 to MIPUG, especially considering the capital investment undertaken by Manitoba Hydro.
8 Industry participation in efficiency programming requires close consideration of overall
9 electricity rates, as industrial capital investment in this province (including investment in
10 efficiency programs) requires overall cost competitiveness for operations.

11 **MIPUG SUMMARY AND/OR RECOMMENDATION:**

- 12 • The PUB should accept that EM's industrial programming plan is highly cost
13 effective and achievable. Industrial program savings are necessary for
14 achievement of EM's mandated savings targets and enhance the overall cost-
15 effectiveness of the electric and natural gas portfolios presented in the Plan.¹
- 16 • Efficiency Manitoba needs to design and implement industrial-focused
17 programming in a manner that is responsive to timelines for industrial savings
18 opportunities, which are driven predominantly by factors related to market
19 conditions and production needs, rather than energy efficiency objectives:²
- 20 ○ Opportunities related to new plant construction or expansions of existing
21 facilities/processes are highly cost effective (for both the customer and
22 EM) but require efficient engagement to be realized, but limited time
23 opportunities. EM will need to be flexible to capture these savings.³
- 24 ○ Annual budgets and savings targets should be flexible to allow for savings
25 to be acquired over variable periods, not artificially constrained by annual
26 savings targets.⁴
- 27 • The incentive caps adopted by Efficiency Manitoba should be flexible so as not to
28 limit industrial participation through failure to recognize the cost/benefit
29 requirements and value propositions that are prioritized by industry:⁵
- 30 ○ Additional opportunities existing within the industrial sector may emerge
31 with an improved incentive structure that recognizes all costs incurred for

¹ MIPUG Exhibit 14 – Slides 16 to 19 (electric), Slides 20 to 22 (natural gas), Transcript (p. 2180 – 2182)

² Exhibit 14 – Slides 12 & 15, Transcript (p. 2172 – 2173, 2179 – 2180)

³ Exhibit 14 – Slide 15 (p. 2179 -2180) and Transcript (p. 2250 – 2251)

⁴ Transcript (p. 2251 – 2255)

⁵ Exhibit 6 (revised) – Section 1.2.6 (p. 5), Section 2.4.1 (p. 19), Section 4.3 (p. 40), Exhibit 14 – Slide 24 and Transcript (p. 2189 – 2191, 2255 – 2258)

1 energy efficiency improvements along with criteria commonly used by
2 industry for project justification.

3 • Industrial projects can often be large and capital intensive, creating lumpy
4 savings profiles and demands for large incentives that may not mesh well with
5 the budgets and timing of EM's mandated annual savings targets.⁶

6 ○ A wide scope for the use of the Contingency Fund is needed to recognize
7 large industrial projects as "emerging opportunities".⁷

8 • Energy rates matter for industry operating in Manitoba, and the cost impacts of
9 energy efficiency programming is an important consideration for the long-term
10 stability and predictability of energy rates for industrial consumers.⁸

11 **DISCUSSION AND SUPPORT:**

12 Industrial efficiency programming options are important to industry in offering a tool to
13 increase operational competitiveness in what is often set pricing environments (through
14 commodity markets or long-term contracts).⁹ As noted by Mr. Friesen:¹⁰

15 MR. DALE FRIESE\$N: ... The efficient use of energy contributes to a
16 competitive industrial sector that can grow the economy and generate
17 economic benefits through job creation and other means. Energy
18 efficiency savings achieved through industrial program are generally very
19 cost-effective with strong persistence. So this is a good way to grow our
20 economy, and Efficiency Manitoba programming supports that, and we
21 would -- in that aspect -- we would be strong supporters of it.

22 However, MIPUG members and industry in general, compete both externally against
23 companies within their respective sectors, but also internally between Manitoba locations
24 and other locations for capital and production funding.¹¹ In this respect, efficiency
25 programming options are important, but only if available in tandem with maintaining low
26 energy rates. Both need to exist in order for industry to allocate funding to efficiency
27 programs.¹²

28 Further, industry can not all participate in efficiency programs equally. In many cases
29 customers do not have the opportunity to participate at all or can participate on a limited
30 scale only periodically due to the nature of their operations. As explained by Mr. Friesen:

⁶ Transcript (p. 2149 – 2150)

⁷ Exhibit 14- Slide 14, Transcript (p. 2,148 – 2149, 2178, 2250 – 2251),

⁸ Exhibit 14 – Slide 26, Transcript (p. 2192 – 2195), Exhibit 6 (revised) - Section 2.2 (p. 17 – 18)

⁹ Mr. Dale Friesen direct examination, page 2191, and discussed further by MIPUG members in presentations to the PUB panel on January 24, 2020

¹⁰ Mr. Dale Friesen direct examination, page 2192

¹¹ Mr. Dale Friesen direct examination, page 2191

¹² Mr. Dale Friesen direct examination, page 2193

1 MR. DALE FRIESEN: ... Sometimes, the magnitude of the investment
2 that's required to improve efficiency in certain industries is simply beyond
3 the scope and capability of Efficiency Manitoba. I'll use the pipeline
4 industry as an example.

5 The efficiency of a pipeline is basically determined at the time of
6 construction, and it's based on the size of the pipe, the viscosity of the
7 fluid, the rate at which you're pushing fluid through that pipeline, and the
8 pumping requirements. Because of the volume of ener -- or the
9 magnitude of the energy requirements for pumping, those pumps are
10 already very, very efficient. Changing a pipeline is exceedingly expensive,
11 and to be frank, just outside the scope of anything Efficiency Manitoba
12 really has the financial capability to impact. So we're talking billions of
13 dollars in this case. So that's an example of an industry that consumes
14 quite a bit of energy in Manitoba and really doesn't have a lot of
15 opportunity to participate in this plan.¹³

16 In general, however, industrial programming will not result in smooth savings year over
17 year. As Mr. Friesen noted, industrial efficiency projects are generally larger and can
18 result in a lumpy savings profile. He noted that timing and prioritization has many
19 considerations including:

20 MR. DALE FRIESEN: ... Energy costs vary considerably between
21 industrial sub-sectors, from as low as 8 percent to as high as 65 percent
22 of total operating costs.

23 So energy is important. It varies in that it's important to every MIPUG
24 member and to most industrial customers in general.

25 Having said that, the timing for processes improvements are generally
26 driven by factors related to market conditions, equipment life, productivity,
27 quality, et cetera. They're not related to energy efficiency. The cost of lost
28 time, or lost production time, is simply too high and can dwarf energy
29 efficiency related cost savings.¹⁴

30 The overall spending associated with Efficiency Manitoba's plan and avoiding adverse
31 impacts on rates should be the priority consideration in approval of EM's plan, discussed
32 further in Issue Topic #1. Non-participants in EM's plans are not always that way by
33 choice and they should not be subsidizing the costs of customers who are able to
34 participate.

35 Regarding flexibility for implementation, EM intends to offer some flexibility in its plan
36 with regard to spending timing within the 3 year plan period, there remain concerns that

¹³ Direct examination of Mr. Friesen, pages 2163 - 2164

¹⁴ Direct examination of Mr. Friesen, pages 2175

1 EM may not be able to commit to incentives beyond the 3 years, which can be a
 2 necessity for industrial projects that require multi-year planning and construction
 3 timelines.¹⁵

4 Reflecting the overall level of savings achieved by industrial participation in EM’s plan,
 5 with the following two tables provided in Mr. Friesen’s evidence and again on slide 16 of
 6 MIPUG Exhibit-14:

Table 3.9: Allocated Savings & Budget by Sector

Customer Segment / Category	Annual Savings & Budget Allocations						Average Allocation	
	Saving (%) 2020/21	Budget (%) 2020/21	Saving (%) 2021/22	Budget (%) 2021/22	Saving (%) 2022/23	Budget (%) 2022/23	Saving (%) 2020-2023	Budget (%) 2020-2023
Industrial	39%	18%	40%	24%	39%	20%	39%	20%
Agricultural	3%	4%	3%	4%	3%	4%	3%	4%
Commercial	36%	40%	34%	35%	34%	34%	35%	36%
Residential	21%	18%	22%	18%	23%	20%	22%	19%
Income Qualified	0.7%	3%	0.7%	3%	0.7%	3%	1%	3%
Indigenous	0.4%	2%	0.5%	3%	0.5%	3%	0.5%	3%
Enabling Strategies	-	11%	-	10%	-	10%	-	10%
Overhead	-	4%	-	4%	-	6%	-	4%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Note: May not add up due to rounding

7

Table 3.15: Industrial Sector Acquisition Costs (no applicable Codes & Standards)

Target Fiscal Year	Anticipated Savings (per Plan)	Anticipated Budget (%)	Anticipated Budget (per Plan)	Acquisition Cost (\$/kWh)
2020/21	146	18%	\$7,874,000	\$0.054
2021/22	161	24%	\$12,077,000	\$0.075
2022/23	156	20%	\$10,281,000	\$0.066

8

9 In discussing these results in his direct examination, Mr. Friesen noted that:

10 MR. DALE FRIESEN: ... Achievement of Efficiency Manitoba's objectives
 11 is heavily dependent on its success for inquiring anticipated industrial
 12 savings at a relatively low acquisition cost.

13 If we look at [table 3.9 restated above], we'll see the 39 percent of the
 14 saving – electric portfolio savings arising from the industrial sector while
 15 only 20 percent of the available budget is dedicated toward the
 16 acquisition of these savings.

¹⁵ Mr. Friesen cross-exam with Ms. Jessica Schofield, transcript pages 2253 - 2254

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1 Therefore, the success of this portfolio, or this plan, is critically dependent
 2 on industrial programming for achievement of cost effective -- for
 3 savings.¹⁶

4 The natural gas portfolio similarly plans a substantial portion of the overall savings from
 5 the industrial sector (29% on average each year) at much lower overall percentage of
 6 budget (on average 9% per year) as seen in the tables below.¹⁷

7 **Natural Gas Portfolio**

Customer segment/category	Savings (%) 2020/21	Budget (%) 2020/21	Savings (%) 2021/22	Budget (%) 2021/22	Savings (%) 2022/23	Budget (%) 2022/23	Savings (%) 2020-2023 Average	Budget (%) 2020-2023 Average
Industrial	37%	11%	25%	7%	26%	8%	29%	9%
Agricultural	1%	1%	1%	1%	1%	1%	1%	1%
Commercial	23%	28%	26%	28%	25%	26%	25%	27%
Residential	32%	14%	40%	24%	40%	24%	37%	21%
Income Qualified	8%	32%	7%	28%	7%	29%	7%	30%
Indigenous	0.2%	2%	0.2%	2%	0.4%	2%	0.3%	2%
Enabling strategies	-	9%	-	8%	-	7%	-	8%
Overhead	-	3%	-	3%	-	4%	-	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%

8 Note: May not add up due to rounding

New Table: Industrial Sector Acquisition Costs (no applicable Codes & Standards Savings)

Target Fiscal Year	Anticipated Savings (per Plan)	Anticipated Budget (% of Total)	Anticipated Budget (per Plan)	Acquisition Cost (\$/kWh)
2020/21	5.1	11%	\$2,119,000	\$0.417
2021/22	3.7	7%	\$1,518,000	\$0.408
2022/23	3.8	8%	\$1,876,000	\$0.491

9
 10 Regarding achievability of natural gas industrial programming, Mr. Friesen noted in his
 11 oral testimony:

12 MR. DALE FRIESEN: ... Unlike the electric bundle for the industrial
 13 sector, no one (1) opportunity dominates the market in the way that load
 14 displacement dominates the electric savings. A large portion of the
 15 savings are ascribed to one (1) program concept, but the -- the variety

¹⁶ Transcript pages 2180 - 2181

¹⁷ MIPUG Exhibit 14, slide 20

1 and diversity of the measures that are applicable within that one (1)
2 program concept, or measure concept, are quite varied, so there's a lot of
3 opportunities there.

4 Because there are many more customers involved in -- in the
5 achievement of the natural gas savings target, Efficiency Manitoba will
6 require a broad -- more broad and comprehensive outreach to many
7 industrial sector companies. While not unreasonable, this will require
8 greater effort and a more broad outreach in order to achieve the targeted
9 savings.

10 One (1) caution in respect to natural gas is that the price of natural gas is
11 extremely low, and that presents a challenge when you're looking at
12 justification for energy efficiency projects. And it's not a new challenge, it's
13 a challenge that's been around for a long time, but it is a significant
14 challenge that we experienced when I was at Manitoba Hydro and I'm
15 sure Efficiency Manitoba will continue to experience going forward.¹⁸

16 Industrial savings are even more cost-effective when you consider the longer-term
17 savings benefits:

18 MR> DALE FRIESEN: ... Industrial programs are extremely competitive
19 in terms of their acquisition costs, and generally, if you look beyond the
20 Efficiency Manitoba plan and you look at reinvestment, industrials have a
21 tendency to replace like with like at end of use. So if an efficiency
22 measure has been installed, there's a very high probability that that same
23 equipment or better equipment will be installed at the end of life.

24 So those savings really do have a long- term benefit to Efficiency
25 Manitoba in the achievement of future savings and also to Manitoba
26 Hydro in terms of the IRP and how those savings are integrated into the
27 IRP. So those are important facts.¹⁹

28 The PUB, in its determination on the overall acceptance of EM's 2020/21 – 2022/23 Plan
29 should find that the industrial sector planned programming provides a cost-effective
30 means to achieving energy efficiency saving, providing more overall savings than other
31 customer sectors at less overall cost.

32 The EM Plan provides a comprehensive approach to the industrial market with programs
33 and complimentary supporting activities (i.e. screen studies, energy managers, energy

¹⁸ January 20, 2020, transcript pages 2168 - 2169

¹⁹ Mr. Dale Friesen, direction examination, transcript page 2187

1 management cohorts) covering processes and facilities commonly used by many
2 industrial operations.²⁰ Noting a few of the industrial programs specifically:

- 3 • Industrial savings targets averaging 1.70% of electric load and 0.82% of natural
4 gas load respectively are reasonable and achievable, with the inclusion of Load
5 Displacement (i.e. treated as an annual incremental savings achievement) in the
6 electric portfolio.²¹
- 7 • While the load displacement program has limited opportunities for broad
8 industrial sector participation, its contribution to electric savings target is
9 substantial (i.e. about 1.25% of industrial load and 25% of total electric portfolio
10 savings) and highly cost-effective (i.e. 1.5 cents per kWh) while adding
11 substantial value and mitigating climate change impacts by displacing fossil fuel
12 consumption, and are therefore critical to achievement of the Plan's objective as
13 presented in EM's application.²²
- 14 • The remaining electric programming (i.e. Custom program) for the industrial
15 sector, accounting for about 0.5% of industrial load, presents broad opportunities
16 for wide-spread industry participation. Similarly, the Custom programming for
17 natural gas, also provides similar broad opportunities for participation across the
18 sector.²³

19 Regarding the capping of Efficiency Manitoba contribution to industrial programming at
20 50% for all programs, EM noted that:

21 MR. MICHAEL STOCKI: ... So, yeah, Mr. Friesen's evidence was
22 pointing to potential challenges that customers may have with program
23 caps that are in place in order to, for example, restrict incentives for
24 industrial or some commercial projects where Efficiency Manitoba would
25 propose to use, say, a 50 percent contribution cap, or if we were
26 evaluating it from the customer's perspective, not buy down a project to
27 less than a one (1) year payback. And so some of Mr. Friesen's
28 comments were that flexibility should be given where warranted that
29 projects -- there may be cost-effective projects where those thresholds
30 could be exceeded.

31 I -- those caps have a very kind of specific function and that helps us
32 reach more volume customers. If there is concerns with a specific
33 customer not moving forward because of those caps, I think we have the
34 flexibility to look at those on a one-off basis potentially, but the caps are in

²⁰ MIPUG Exhibit 14 – Slides 3 (electric) & 4 (natural gas), Transcript (p. 2154 – 2155, 2157 – 2158)

²¹ MIPUG Exhibit 14 – Slides 7- 8 (electric) & 10 - 11 (natural gas), Transcript (p. 2164 – 2166, 2168 – 2169)

²² MIPUG Exhibit 14 – Slides 18 – 19, Transcript (p. 2182 – 2184)

²³ MIPUG Exhibit 14 – Slides 7(electric), Slide 10 (natural gas), Transcript (p. 2165, 2168 - 2169)

1 place for very specific purposes that were not over contributing to specific
2 measures on every project basis, but for larger projects in particular that
3 might warrant a very detailed analysis on a project-by-project basis, very
4 similar to actually what's done in the load displacement program, then we
5 would look at it on again a project-by- project basis and perhaps those
6 caps would be reviewed at executive or even board level, if warranted.²⁴

7 MIPUG supports the consideration that EM attempted to ensure that a greater volume of
8 customers was reached. However, as noted by Mr. Friesen in direct testimony, EM could
9 increase cost-effective participation by investing in screening studies, energy manager
10 initiatives, and strategic energy management cohorts to expand savings obtained from
11 the industrial sector with strategic enhancements to incentives.

12 Attaining the level of industrial savings projected in the EM Plan will require substantive
13 direct investment by the industrial sector totaling between \$60 - \$75 million over three
14 years (i.e. conservative estimate). This industry sector investment compares to total
15 investment by EM of about \$35 million, including program administration costs.²⁵

²⁴ January 7, 2020, in cross-examination with Ms. Steinfeld, transcript pages 547 - 548

²⁵ Exhibit 14 – Slide 5, Transcript (p. 2159 – 2162), Exhibit 6 (revised) – Section 3.1.3 (p. 27 – 29)