

# Demand-Side Management (DSM) in Manitoba: A New Framework

## MODEL OVERVIEW

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## ABOUT DUNSKY ENERGY CONSULTING

Dunsky Energy Consulting is a Canadian firm specialized in the planning, design, support and evaluation of sustainable energy programs and policies. Our clients include leading utilities, government agencies, private firms and non-profit organizations throughout North America.

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# CONTENTS

**SUMMARY ..... 1**

**INTRODUCTION ..... 2**

    BACKGROUND & MANDATE ..... 2

    INITIAL CONSULTATIONS & EMERGING THEMES ..... 3

    OTHER KEY INPUTS ..... 5

**A NEW DSM MODEL ..... 6**

    GUIDING PRINCIPLES ..... 6

    MODEL OVERVIEW ..... 6

    PILLAR #1. CLEAR LONG-TERM TARGETS ..... 10

    PILLAR #2. STRONG OVERSIGHT & CONSULTATION ..... 12

    PILLAR #3. EMPOWERED DELIVERY ENTITY ..... 14

**MANITOBA HYDRO’S CONTINUED ROLE ..... 18**

    OPPORTUNITIES FOR COLLABORATION ..... 18

    LEGISLATED SERVICES ..... 20

    TRANSITION ..... 21

**CONCLUSIONS & NEXT STEPS ..... 23**

## SUMMARY

On June 20<sup>th</sup>, 2014, capping a lengthy hearing into Manitoba Hydro's proposed capital plans, the Public Utilities Board (PUB) made a series of recommendations designed to reframe the way in which energy efficiency and demand-side management initiatives are delivered in the province.

In September, Dunskey Energy Consulting was retained to assist the province in this regard. Specifically, we were tasked with developing the details of a model that would be wholly consistent with the PUB's recommendations. This report caps the **first phase** of our mandate, which included a review of lessons learned elsewhere in North America; consultations with nearly thirty Manitoban stakeholders and decision-makers; and design of a *high-level* model adapted to the province's unique context.

The PUB's recommendations focused on three key pillars of a broad DSM framework: (1) clear, long-term targets, (2) strong oversight and accountability, and (3) delivery by an independent, arm's length entity. **Consistent with that framework, the model we developed revolves around a long-term contract for the delivery of DSM savings to Hydro and its ratepayers, not unlike a power purchase agreement.** Under this model:

- **The Government of Manitoba** adopts long-term (10 years, renewable) DSM targets, consigned in a binding contract with the Delivery Entity, and provides further direction to the PUB;
- **An independent, made-in-Manitoba, non-governmental organization**, under contract to deliver those savings, periodically submits near-term (e.g. 3-year) plans to the PUB for approval;
- **The Public Utilities Board** reviews and approves plans, including the quantities and costs considered reasonable and necessary to meet the long-term targets; it furthermore reports to the Government of Manitoba on the Entity's performance, and makes recommendations re. adjustments to targets;
- **Manitoba Hydro**, which benefits through increased exports, by deferring capital costs, or by reduced gas costs, purchases the savings from the Entity, at the quantities and price determined by the PUB;
- **Stakeholders** are involved through active participation in a DSM Advisory Committee, allowing for resolution of issues and concerns outside of the regulatory forum; and
- **An independent evaluator** reports to the PUB on the Entity's performance.

Beyond these highest-order prescriptions, other recommendations include the targets themselves; the continued role of Manitoba Hydro; and the mechanisms through which targets might evolve, including both contracted long-term targets, and interim, additional targets that may result from the IRP process. Phase 2 of this project, which will now commence, will focus on a longer list of details needed to ensure the new model's successful implementation.

## INTRODUCTION

### BACKGROUND & MANDATE

On June 20<sup>th</sup>, 2014, the Manitoba Public Utilities Board (PUB) issued its final report on the needs for and alternatives to Manitoba Hydro's proposed capital plans. Commonly known as the NFAT report, the executive summary included the following recommendation:

“Manitoba Hydro be divested of Demand Side Management (DSM) responsibilities and the Government of Manitoba establish an independent arm's length entity to deliver government-mandated DSM targets” (p.19)

The Board expanded on this in its Conclusions and Recommendations, through a set of four distinct recommendations:

#### Creating New Demand Side Management Opportunities

6. The Panel recommends that the Government of Manitoba divest Manitoba Hydro of its responsibilities for Demand Side Management.
7. The Panel recommends that the Government of Manitoba mandate incremental annual Demand Side Management targets in the order of 1.5% of forecast domestic load (including codes and standards) over the long term.
8. The Panel recommends that the Government of Manitoba establish a regulated, independent arm's-length entity that would be responsible for developing and implementing a plan to meet the mandated Demand Side Management targets.
9. The Panel recommends that the Demand Side Management savings reported by the independent arm's-length entity be independently audited on an annual basis.

On September 16<sup>th</sup>, 2014, the Government of Manitoba tasked Dunsky Energy Consulting with reviewing the options, consulting stakeholders, and recommending a DSM model that must be consistent with the PUB recommendations.

Our work is divided into two phases: a first phase, which this report concludes, involved a review of model options; initial consultations with Manitoba Hydro and Manitoban stakeholders; and recommendations for the most critical aspects of the new model. The second phase, which will soon begin, involves addressing a variety of other important details.

## INITIAL CONSULTATIONS & EMERGING THEMES

During the month of October, we met with nearly thirty individuals, representing ten organizations directly involved in Manitoba's DSM effort.<sup>1</sup>

Organization	Individual	Position
<b>Manitoba Ministry of Municipal Government</b>	Fred Meier	Deputy Minister
	Jim Crone	Executive Director, Energy Division
	Rathan Bonam	Manager, Energy Efficiency
<b>Manitoba Hydro</b>	S.A. (Scott) Thomson	President and Chief Executive Officer
	Lloyd J. Kuczek	VP, Customer Care & Energy Conservation
	Bryan Luce	VP, Human Resources & Corporate Services
	Dale Friesen	Division Manager, Industrial & Commercial Solutions
	Lois Morrison	Division Manager, Consumer Marketing & Sales
	Cheryl Pilek	Manager, Power Smart Planning, Evaluation & Research
	Colleen Kuruluk	Manager, Marketing Programs, Consumer Marketing & Sales
	R.H. Armstrong	Manager, Customer Engineering Services
	Carmen Neufeld	Board of Directors
	Dudley T. Thompson	Board of Directors
<b>AKI Energy, and BUILD Inc</b>	Shaun Loney	Executive Director
<b>50by30</b>	Daniel Lepp Friesen	Coordinator
	Bruce Duggan	Member
	Curt Hull	Member
<b>Green Action Centre</b>	Peter Miller	Board of Directors; Chair, Policy Committee
	James Magnus-Johnston	Board of Directors
	Josh Brandon	Policy Committee
<b>Consumers Association of Canada (Manitoba)</b>	Gloria Desorcy	Executive Director
<b>Public Interest Law Centre</b>	Byron Williams	Director
<b>Manitoba Industrial Power Users Group</b>	Patrick Bowman	Principal, InterGroup Consulting
	Melissa Davies	Research Consultant, InterGroup Consulting
	Bill Turner	Chair ( <i>Former manager, Canexus Chemicals</i> )
	Dale Bossons	Co-Chair ( <i>Plant Mgr., Canexus Chemicals</i> )
	Gerry Forrest	Advisor
	Dave Forsyth	Member ( <i>Regional Energy Manager, Gerdau Long Steel North America</i> )
<b>Infotechnika</b>	Ken Klassen	President

<sup>1</sup> A meeting with Manitoba Keewatinowi Okimakanak (MKO) was attempted but not possible due to timing constraints.

We wish to thank the individuals listed above, all of whom generously shared their experience, insights, hopes and concerns for DSM in the province. The reader should note that in order to facilitate open and honest discussions, we committed to not attributing specific comments to any groups or individuals in this report.

In addition to meetings with Manitoba's decision-makers and stakeholders, we also held discussions with leaders of three of the continent's most successful *independent DSM* organizations, namely Efficiency Vermont, Efficiency Nova Scotia, and Energy Trust of Oregon.

Throughout the consultations, several themes emerged. While not exhaustive, these included general support for the PUB recommendations regarding enhanced oversight (independent evaluations and PUB review), as well as adoption of clear targets. On the other hand, we heard mixed reactions – both concerns and enthusiasm – regarding the transfer of responsibility out of Manitoba Hydro.

The primary concerns were threefold:

1. **Transition costs and risks:** The transition may not be smooth, and current plans and DSM momentum could suffer as a consequence; also the transfer or replication of existing systems and data could increase costs in the short-term;
2. **Lost Synergies:** Existing synergies between Manitoba Hydro's DSM and non-DSM activities (engineering expertise, custom services and client relationships, rate design, data collection and analytics, financing and bill collection, others) could be diminished or lost.
3. **Government Micromanagement:** Government could control, directly or indirectly, the new entity, in the process diminishing its agility, saddling it with multiple goals, and/or imposing "pet projects" that either distract from its prime focus, or dilute its effectiveness.

Inversely, we also heard enthusiasm for the transfer to a new Entity, primarily for 5 reasons:

1. **Clarity of Purpose:** A mission-driven Entity, with the sole purpose of delivering energy savings cost-effectively, could be "unshackled" by other considerations and/or competing objectives, and thus better able to deliver savings to Manitobans.
2. **Performance-based Approach:** A new framework built on clear, contracted targets, and faced with independent third-party evaluation, could lend itself to more of a performance-oriented approach and culture.
3. **Nimbleness:** A smaller, purpose-driven Entity could be more nimble, at once in its dealings with the market, in bringing dynamic adjustments to its own programs and strategies, and in its internal contracting and hiring processes.

4. **Comprehensiveness:** A new Entity could address savings from a fuel-neutral perspective, and could furthermore expand to address a broader array of demand-side resource savings opportunities, including those related to water and transportation fuels.
5. **Innovation:** A new Entity and framework could focus more effort on fostering innovation, both in the types of services offered to the market, and in promotion of innovative technologies and practices.

Our experience with models elsewhere – and with the transitions involved in moving from one model to another – by and large support both the concerns and the enthusiasm noted above. Our recommendations herein have attempted to address these, to the extent possible at this stage, with a view of minimizing risks and maximizing the likelihood of securing anticipated benefits.

## OTHER KEY INPUTS

In addition to the consultations, our recommendations were informed by a careful review and assessment of a number of key documents provided to us by both the Ministry of Municipal Government and Manitoba Hydro. These included both public and internal materials, including extremely helpful information regarding legal, human resource, and DSM-specific issues. **We are grateful to both organizations for their diligence and forthrightness in providing this information.**

Of course, our recommendations also took into account lessons learned from outside of Manitoba. To this end, we reviewed reports and legal structures adopted in other regions, revisited the work that we (and others) have conducted on the issue of DSM frameworks on multiple occasions and for a variety of clients over the past decade, and held discussions with some of the continent's most successful independent DSM models.

Finally, our analysis and recommendations benefited from our own, hands-on experience working closely with a broad array of DSM frameworks and delivery entities across North America, including leading utilities, independent DSM entities of various stripes, regulators and government agencies.<sup>2</sup>

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<sup>2</sup> Members of the team have notably worked with or for leading independent entities like Efficiency Vermont, Efficiency Nova Scotia, and Energy Trust of Oregon; crown utilities such as BC Hydro, Hydro-Quebec, Manitoba Hydro, and NB Power; investor-owned utilities like Pacific Gas & Electric, Northeast Utilities, Fortis BC, and Nova Scotia Power; government agencies such as the New York State Energy Research and Development Authority (NYSERDA), Efficiency New Brunswick (defunct), Quebec Energy Efficiency Agency (defunct), and Ontario Power Authority (soon to be folded within another organization); hybrid organizations like the Northeast Energy Efficiency Partnerships; and regulators like the New Jersey Board of Public Utilities and the California Public Utilities Commission.

## A NEW DSM MODEL

### GUIDING PRINCIPLES

The model we recommend is a comprehensive framework that seeks to address all of the PUB's recommendations, each a pillar of a broad vision for DSM. We note that while it may be tempting to focus on the Delivery Entity alone, a careful examination of the PUB's recommendations suggests that this is only one part of a three-pronged model rooted in:

- 1. CLEAR LONG-TERM TARGETS**
- 2. STRONG OVERSIGHT**
- 3. AN EMPOWERED DELIVERY ENTITY**

The first two components of the model as described above should be considered *essential* foundations.

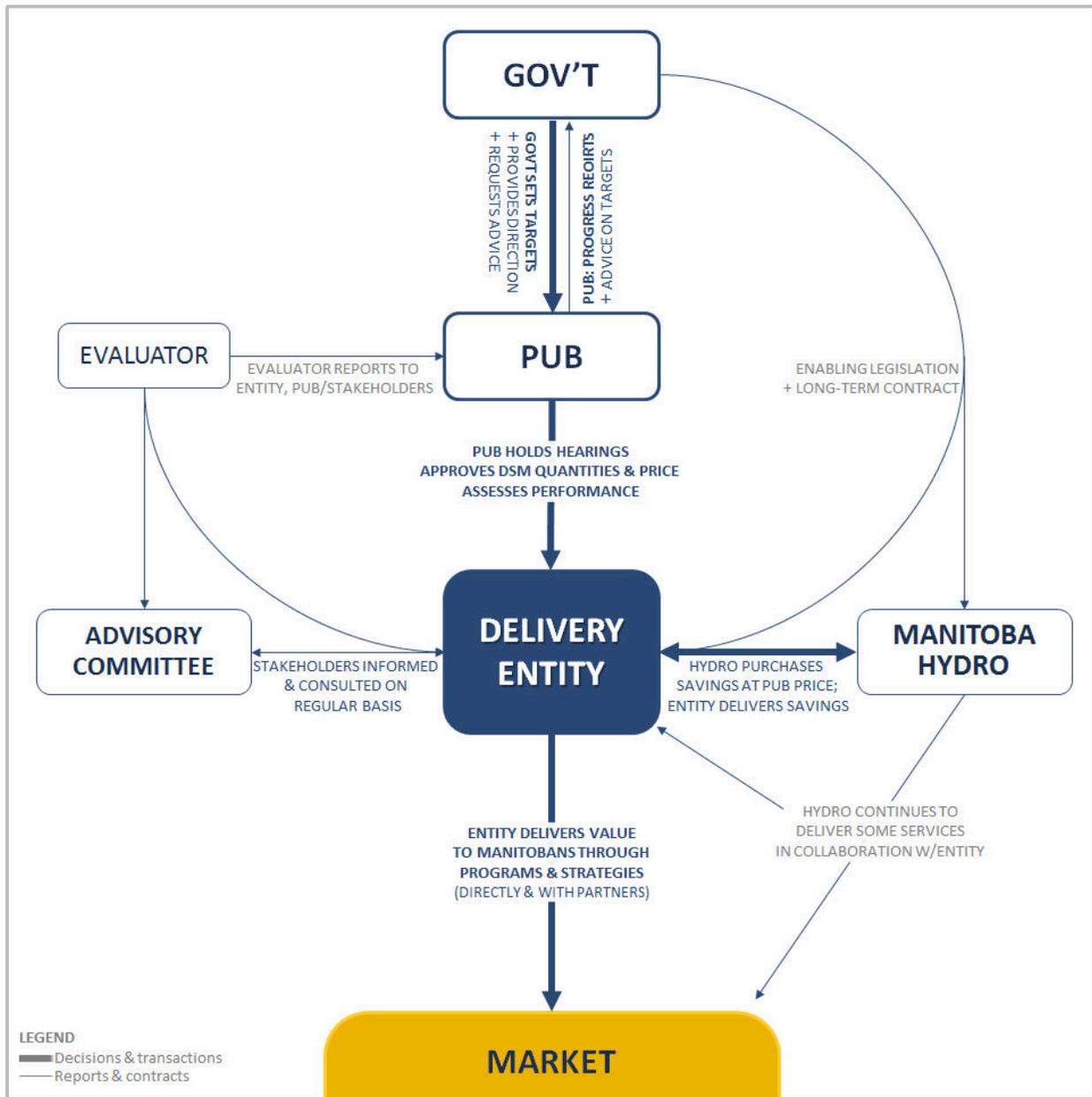
In addition to addressing each pillar of the PUB's recommendations, the framework we recommend is designed to address some of the key lessons learned from other regions. These include the importance of providing the Delivery Entity with a clear mandate, with adequate powers, and with both the security and predictability needed to shore up its credibility among staff, partners, and the broader array of market players on which its success will hinge.

### MODEL OVERVIEW

To address the three key components noted above, the new model would revolve around a long-term contract for the delivery of DSM savings to Hydro and its ratepayers. While the government would establish the minimum long-term targets, the PUB would adopt additional savings targets should the IRP require so and, more importantly, would determine interim targets (quantities of DSM savings to be delivered) and associated costs (the price to pay).

The following organizational chart illustrates the model, insofar as DSM for regulated fuels (electricity and natural gas) is concerned. We note that most aspects of this model apply irrespective of the choice of Delivery Entity.

Figure 1. Overview of the New DSM Framework



As can be seen, this model performs several key functions:

- Government Legislates (sets goals & delegates authority):** The government of Manitoba proposes – and parliament adopts – the legislation necessary to enable the model, including the PUB’s and Delivery Entity’s respective roles. Government also sets long-term *minimum* savings targets (as well as other direction or considerations), consigned in a binding contract with the franchise holder (the Entity) in order to provide security to both it and its partners and

suppliers.<sup>3</sup> Government also renews the contract (on terms and conditions it negotiates), and/or takes corrective action if necessary. Inversely, government is not involved in the Entity's operations, and delegates direct oversight authority to the PUB.

- **PUB Oversees & Reports:** The PUB is invested with the authority to approve the Entity's multi-year plans (quantity of savings) and associated costs (price of savings), both of which should be reasonable to achieve the government's contracted long-term savings targets.<sup>4</sup> The PUB also reports to government on the Entity's progress toward contracted goals, and may advise on additional savings targets, based on results of an IRP or at government's request. Finally, should the Entity underperform, the PUB can recommend corrective action to government.
- **Stakeholders are Involved:** Stakeholders, through a permanent Advisory Committee, are kept informed of the Entity's progress, and are consulted on issues in which they can provide valuable thoughts and insights. Regular Advisory Committee meetings (e.g. quarterly or semi-annually) build confidence, and allow for many issues to be addressed outside of the regulatory arena, reducing the regulatory burden on all involved.
- **Hydro Buys Savings:** Hydro will purchase savings on behalf of ratepayers, at the quantities and price determined by the PUB to be reasonable to achieve the long-term target cost-effectively. With some nuances, this is fundamentally no different than a standard power purchase agreement, thus treating DSM analogous to supply resources. Hydro also plays a continuing role in promoting and supporting DSM, in part through contracted services provided to the Entity.
- **Entity Delivers (with clear goals, purpose, framework):** Invested with measurable goals, a long-term contract, clear oversight, stakeholder involvement, appropriate powers and authority, and an approved price for delivery of near-term savings, the Entity can focus on delivering maximum value to Manitoba's energy users. The Entity can also determine the optimal approach to delivering programs and services, which can include in-house provision or outsourcing to specialized firms, including potentially to Manitoba Hydro, as well as financing solutions.
- **Performance is Evaluated:** An independent DSM evaluation firm or firms are responsible for assessing the Entity's performance. Evaluators should be chosen by either the PUB directly, or

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<sup>3</sup> We note the importance of consigning the target in the form of a binding, long-term contract, analogous to a long-term power purchase agreement, or PPA. There are two reasons for this: First, the contract provides the security that mere legislation cannot, allowing the Entity to attract top talent, to credibly encourage businesses or social enterprises to staff up and/or retool with confidence, and to reassure lenders and other key market actors that the Entity is "in it for the long haul". Second, it is fiscally cost-efficient for ratepayers: without it, there is a real risk that the Canada Revenue Agency may determine the Entity ineligible for Input Tax Credits, adding unnecessary costs for ratepayers (this position is currently being challenged in Nova Scotia).

<sup>4</sup> This "single master" approach has proven critical to achieving the clarity of purpose that is a cornerstone of success, in DSM as in other areas. The reverse, reporting to multiple masters with multiple (often competing) objectives, would put one of the model's key expected strengths – clarity of purpose – at risk.

by the Entity with the involvement of the PUB and stakeholders; final reports are submitted to the PUB for review. These evaluations allow the PUB and stakeholders to judge the extent to which the Entity is delivering on its targets, while also providing valuable information to the Entity on opportunities to improve. It further allows the PUB to report to government on the Entity's performance relative to its contract and, if warranted, to signal issues and recommend corrective action, including a change in franchise holder if necessary.

The model above depicts the primary oversight framework for the Entity's core functions, insofar as they involve ratepayer funds. Additional aspects not covered above include:

- **Other organizations:** The Entity will be responsible for determining the optimal approach to delivering programs and services, which can include both in-house provision and outsourcing. Outsourcing may involve private firms (e.g. firms specialized in implementation of efficiency programs), social enterprises (e.g. mission-driven organizations or industry associations that offer unique combinations of relationships and drive to address niche markets) and, as noted above, Manitoba Hydro itself (e.g. for project lead generation through its account managers). We encourage the Entity to consider making use of external services where relevant, in an effort to grow a robust energy efficiency industry across Manitoba.
- **Non-Energy Resources:** Transitioning to a new Delivery Entity opens the door to addressing analogous resource savings opportunities, notably in the areas of water and transportation. While we encourage the Entity to focus initially on electric and gas ratepayer-funded energy savings, the Entity may seek to broaden its funding sources in order to address a broader range of demand-side resource saving opportunities (e.g. water conservation; transportation demand management; alternative transportation fuels; land use planning). Funding for these may come from any number of sources, including governments (federal, provincial, municipal), foundations, and the private sector; these would not be subject to PUB approval.

While these do not appear on the chart above for simplicity's sake, each will play a role in the long-term success of the new model.

Below we address each of the model's three primary components individually. We recommend that the key elements of each component be embodied in enabling legislation.

## PILLAR #1. CLEAR LONG-TERM TARGETS

In its final report, the PUB recommended an incremental annual DSM target “in the order of 1.5% of forecast domestic load (including codes and standard) over the long term”. This recommendation offers several advantages:

- First, predictability provides the Delivery Entity with a strong foundation of credibility needed to engage with and sway market actors;<sup>5</sup>
- Second, predictability is critical to the Delivery Entity’s ability to contract effectively, including to hire strong talent, to maximize the value it gains from external contractors (and/or lower the cost), and to enable creation of more in-province expertise);<sup>6</sup>
- Third, a pre-determined and sustained target provides staff and management both the clarity and motivation needed to deliver in the marketplace; and
- Fourth, a long-term approach allows the Entity to focus not only on procuring short-term savings, but on cost-effectively transforming markets in the longer-term.

**In our experience, a secure, predictable, long-term approach is an essential ingredient to the success of the DSM endeavour.** The reverse – uncertainty about the future, in-again-out-again incentive programs, short-term contracting, and associated lack of credibility – can encourage gaming, discourage investment, and lead to unnecessary costs.

On the other hand, the PUB’s NFAT report also spoke of the need to conduct Integrated Resource Planning (IRP), a process that can help determine the amount of DSM that is considered cost-effective and worth pursuing. An IRP process may be conducted periodically, and its results may suggest the need for more or less DSM depending on the combination of existing supply, anticipated demand, regulatory constraints and resource characteristics at the time.

These two recommendations need not be inconsistent. Rather, a balanced approach involves two levels of targets: a “Base Target”, determined by government and reflecting a stable, secure, and significant “floor”; and an “Additional Savings Target” that can be determined from time to time based on the results of the most recent IRP process.

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<sup>5</sup> Indeed, successful DSM involves not only incenting customers to buy more efficient products and services, but also convincing suppliers to offer (and actively drive sales of) such products and services. This may require training staff, retooling plants, building and growing new businesses, repositioning brands, and other investments. A stable, predictable target is critical to allowing the Delivery Entity to credibly engage with market actors whose investments will help secure savings at lowest cost.

<sup>6</sup> The Delivery Entity may wish to contract for implementation of DSM services in Manitoba. The ability to do so over multiple years will minimize its costs and maximize the value it can receive from contractors. Furthermore, development of in-province expertise and services, which can take time to build, will be enhanced if the Entity is able to engage in multi-year contracts as the result of a secure and predictable savings target and associated funding.

In order for the Entity to begin operations with clarity, we do not advise launching a potentially lengthy process to determine the initial set of targets. Rather, in a spirit of continuity, we recommend immediate adoption of interim targets based in large part on Hydro's most recent plans. Specifically:

- **We recommend that the Interim Base Target for electricity be set at 1.5% of forecast loads.** This PUB recommendation appears to be entirely reasonable: it is approximately equal to the savings that Manitoba Hydro itself proposed in its most recent three-year plan (March 2014); is consistent with targets in similar regions; and is achievable when accounting for the broad range of DSM opportunities, including codes and standards.<sup>7</sup> Within this target, program-driven energy efficiency savings should be required to account for at least two-thirds of the total, i.e. one percent per year on average.<sup>8</sup>
- **We recommend that the Interim Base Target for natural gas be set at 0.75% of forecast loads.** In the absence of specific PUB direction, this is a reasonably conservative value that reflects the targets Manitoba Hydro already established in its most recent three-year plan.<sup>9</sup> We note that Manitoba Hydro's natural gas savings goals have not been the subject of any significant criticism that we are aware of. Should a more careful examination find additional cost-effective savings opportunities, the PUB can adopt an Additional Savings Target (see below).

In order to provide security and predictability to the Delivery Entity, **contracted savings targets should be in effect for an initial 10-year term, renewable at five-year intervals.**<sup>10</sup> This "rolling 10-year target" allows government to negotiate midstream adjustments with the Entity, while providing the Entity with a minimum five-year buffer against sudden changes in political orientation. The buffer period is essential to reassuring the market, and to allowing the Entity to execute changes in its mission and funding as appropriate in the event of change. Significantly, it reinforces the ability of the Entity to operate with a

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<sup>7</sup> In the most recent ACEEE Scorecard (October 2014 – U.S. only), *binding* electricity saving targets in the top ten states ranged from a low of 1.4%/year, to a high of 2.6%/year. The neighbouring state of Minnesota has a binding 1.5%/year target.

<sup>8</sup> Since codes, standards, and self-generation opportunities can come in fits and starts, and since their attribution to the work of any one Entity can be controversial, establishing a minimum for standard energy efficiency *program-driven* improvements provides greater stability and minimizes gaming opportunities. Neighbouring Minnesota has taken this approach: utilities are required to achieve a minimum of 1.5% from all strategies, including *at least* 1.0% from programs, and *up to* 0.5% from codes and standards.

<sup>9</sup> Specifically, Hydro's latest three-year plan anticipates savings of 0.73%/year on average. For comparative purposes, we note that in the most recent ACEEE Scorecard (October 2014 – U.S. only), the top 10 states for natural gas savings had targets ranging from 0.73%/year (Oregon) to 1.47%/year (Vermont). Given Manitoba's more stringent furnace efficiency standard, it is not unreasonable to expect savings opportunities to be lower than in some of the leading U.S. states. For consistency with electric savings, no more than one-third of the target should come from non-program sources.

<sup>10</sup> To inform the contract renewal process, the PUB may advise government, at the latter's request or of its own initiative, regarding the value of increasing or decreasing the long-term target, which would then be negotiated with the Delivery Entity.

long-term outlook, and to commit accordingly to suppliers and partners, in a manner fundamentally the same as one would contract for delivery of power from an independent power producer.

Finally, to encourage a “fuel neutral” approach, energy savings targets should include flexibility such that excess savings of one resource can compensate insufficient savings of another resource from the contract’s perspective.<sup>11</sup> This also allows for proper accounting of situations in which savings of one resource may involve *increases* in use of another resource. In all cases, resource savings should be “net” of baseline consumption, and treated as such within the energy savings accounting framework.

## PILLAR #2. STRONG OVERSIGHT & CONSULTATION

In its final report, the PUB recommended that the Entity be “regulated”, “arm’s length”, and that its savings be “independently audited”.

As depicted in Figure 1 above, activities funded by electric and gas ratepayers will be subject to the oversight of the Public Utilities Board (PUB). More specifically, the PUB would:

1. **Approve Plans and Budgets:** In order to achieve the targets, the Delivery Entity will periodically (e.g. every 3 years, as determined by the PUB) petition for, and the PUB will approve, interim plans. These plans will indicate the anticipated savings within the plan’s timeframe (the quantity), as well as the funds reasonably required to achieve those savings (the price).<sup>12</sup> The PUB will then direct Manitoba Hydro to pay for such approved quantities of energy savings at the approved price, with payments to be recovered through general rates.<sup>13</sup> Funds may also allow for a reasonable performance payment to encourage the Entity and its management to meet or exceed goals.<sup>14</sup>

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<sup>11</sup> Any such shifts in anticipated savings from one resource to another must be clearly stated within the DSM plans the Entity will submit for PUB approval. This will notably allow Manitoba Hydro to adjust its long-term planning as needed.

<sup>12</sup> Funding should primarily be equal to the cost deemed necessary to secure the savings, ensuring that the total value of the savings always exceeds that cost. As is common elsewhere, and within the aforementioned parameters, the PUB should have some flexibility to allow for *some* degree of savings outside of the targeted areas or timeframe. For example, the Entity’s budget may allow for a limited share of funds to be directed to longer-term “market transformation” savings that would not contribute to the near-term goal, or to generate limited savings of unregulated fuels where doing so is socially desirable. However, benefits to consumers should in all cases exceed the Entity’s ratepayer-derived revenue.

<sup>13</sup> As per current practice, Manitoba Hydro would continue to amortize DSM costs over a period reasonably commensurate with the average life of the savings. Hydro would collect such funds through general rate revenue, no different than for other expenditures including power purchase agreements, after allocating costs as appropriate and approved by the PUB.

<sup>14</sup> As is the case in many regions across North America, the PUB may approve performance-based incentives if they are deemed in the public interest. Such payments should be limited to a fraction of total costs, and may be based on either the amounts or the value of achieved and independently verified savings. Total ratepayer costs, including performance payments, should remain in excess of consumer or societal benefits.

2. **Assess Performance:** In order to ensure that targets are met, and that corrective measures are implemented if needed, the PUB will see to the independent evaluation of the Entity's plan. This may be achieved either by contracting directly with an independent evaluation firm to assess savings and other impacts, or by ensuring appropriate involvement of both itself and stakeholders in the Entity's evaluator selection and oversight process.
3. **Report to & Advise Government:** Acting on its behalf, the PUB will report to the Government of Manitoba on progress made toward its contracted goals and objectives. Reports will take into account the measurable targets included in the Entity's contract. The PUB may also, at its discretion or at the request of government, advise on Additional Savings Targets (e.g. following an IRP process) and/or adjustments that government may wish to make at contract renewal.<sup>15</sup> Finally, in the event of significant underperformance, the PUB shall advise government on corrective actions, including, if necessary, revocation of the Entity's contract for cause.

**The PUB would also oversee creation of a Stakeholder Advisory Committee (SAC).** The SAC, which should include consumer, environmental and First Nations groups, can play a pivotal role in:

1. Keeping stakeholders informed of key developments, including changes to programs or other components of approved plans;
2. Enabling stakeholder knowledge and expertise to be brought to the table, enhancing the Entity's ability to perform; and
3. Minimizing the regulatory burden (and associated costs) by providing a forum to address concerns or resolve issues in advance of the formal hearings process.

While the SAC model has proven very successful in a wide array of regions (Nova Scotia and Massachusetts are good examples), variations on the theme can be significant. In particular, some regions provide funding for stakeholders to hire subject matter experts, either individually or collectively, to assist in reviewing the Entity's plans and ongoing operations. Should a funded model be preferred, we strongly suggest a collective approach in which stakeholder groups *together* retain the services of a single, neutral expert or firm, and in which the expert's scope is bounded by the Entity's contracted goals and objectives. Within that scope, the expert or firm can focus on helping members to review the Entity's performance, to identify areas of concern, and to constructively assist the Entity in identifying opportunities to better achieve its goals.

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<sup>15</sup> Government may wish, as is done in a growing number of leading regions across North America, to direct the PUB to ensure that its recommendations regarding target adjustments ensure that "all achievable, cost-effective savings" are secured for Manitobans.

### PILLAR #3. EMPOWERED DELIVERY ENTITY

As noted earlier, the PUB's final report recommended that responsibility for delivering on the DSM targets be handed to a "regulated", "independent", "arm's length" entity (we understand the latter to mean arm's length from both Hydro and government). Below we address both the nature of the organization that is best suited to this purpose, and the culture that this organization will need to cultivate in order to succeed.

#### TYPE OF ORGANIZATION

We conducted an assessment of the variety of organizational models available to this end. Building on previous work by our firm, as well as the work of others, we examined the experience of three of North America's leading independent DSM administrators: Efficiency Vermont (original and new models), Efficiency Nova Scotia (original and new models), and Energy Trust of Oregon. While important details differ, together they offer two fundamental model options.

- 1. Competitive Solicitation:** The first approach is for government to solicit proposals from specialized firms for a contract to deliver the desired level of energy savings over a multi-year period. This is the approach initially taken by Vermont, and currently used in a limited number of U.S. states as well. While it has advantages – in particular creating competition to maximize value – this approach has also demonstrated its limitations. In "small markets" in particular, where the initial incumbent may become hard to replace after the initial contract period, the benefits of competition may all but disappear over time.<sup>16</sup>

Notwithstanding the competitiveness concern, we note two other concerns with this model insofar as Manitoba is concerned. First, it is likely (though by no means certain) that this model would result in the outsourcing of Manitoba's DSM to an out-of-province entity, which itself may be either a for-profit or not-for-profit corporation (strong contenders of both types would likely be interested in bidding). While the arrival of an external organization can be beneficial in bringing outside expertise and a "fresh look" at DSM opportunities in the province – and while most staffing would remain in Manitoba – it may also hinder social acceptance, critical to the Entity's success. Second, the process of selecting a new Entity – including developing the RFP, providing time to assess the market and elaborate proposals, reviewing bids, and negotiating

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<sup>16</sup> For example, in 1999 Vermont launched an RFP for management of the "Efficiency Vermont" brand and achievement of certain targets. The contract, won by the non-profit Vermont Energy Investment Corporation (VEIC), was for two consecutive three-year terms. Six years later, a new RFP was released, with VEIC again securing the contract. At the end of that second period, it was determined that robust competition was no longer likely. As a result, VEIC was offered a long-term franchise for delivery of DSM in the state, akin to the franchises offered to utilities for natural monopoly services. In its most recent State Energy Efficiency Scorecard, the ACEEE ranked Vermont #3 in the U.S. (tied with Oregon).

with the successful bidder – may add undue delays and contribute to ongoing uncertainty for key Manitoba-based talents, and ultimately put a successful transition at risk.

- 2. Special-Purpose Entity:** The other primary approach is to create a special purpose entity, typically an independent not-for-profit, and to provide it with a long-term franchise (and associated contract). This was most notably done in Oregon (Energy Trust of Oregon) and Nova Scotia (Efficiency NS). In Nova Scotia, for example, legislation created the entity, but government involvement largely stopped there; instead, an independent, professional board of directors leads the organization, ensuring its ability to operate independently from government. Similarly in Oregon, legislation creating the Energy Trust of Oregon created an equally independent board of directors, and further instituted a hybrid funding model similar to the two-step target model we recommend herein.<sup>17</sup>

While the Oregon and Nova Scotia models require creating new Entities from the ground up, experience suggests that this is feasible within a reasonably short timeframe, and that key talents can be retained at the outset, a crucial consideration in Manitoba. Furthermore, Manitoba's existing wealth of DSM expertise should facilitate the transition. Finally, we believe that a not-for-profit, home-grown entity is likelier to be well-received in the province.

**After careful review of options for a regulated, independent arm's length entity, we recommend that the province establish a new, special-purpose, non-governmental entity dedicated to delivering energy and other resource savings to Manitobans.**

The Entity would operate under a franchise model, and focus initially on fulfilling the terms of a long-term contract for the delivery of electric and gas savings to Manitoba Hydro (which benefits through greater exports and/or avoided generation or commodity costs), at a price to be determined from time to time by the PUB. It would have the flexibility to also deliver unregulated services using other funding sources. It would be led by an *independent, non-stakeholder* board of directors, as is the case in both Nova Scotia and Oregon. Finally, it would have authority to raise capital as needed for purposes of financing customer DSM initiatives, joining the ranks of innovative new "Green Bank" models recently launched in New York and Connecticut, and under development elsewhere.<sup>18</sup>

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<sup>17</sup> In Oregon's case, the focus is on funding rather than on targets, with Base Funding of 3% of utility revenue guaranteed for an initial 12-year term (since extended), and Additional Funding determined by the Oregon Public Utilities Commission based on results of the utilities' most recent Integrated Resource Planning processes. In its most recent State Energy Efficiency Scorecard report, ACEEE ranked Oregon #3 in the U.S. (tied with Vermont).

<sup>18</sup> Ideally the Entity's financing vehicles would benefit from the same or similar government backstops currently offered to Manitoba Hydro. For example, Connecticut's much-touted Green Bank is backstopped by the State; in other regions, energy efficiency financing is backstopped by utilities. The ability of financing to leverage private capital can be crucial to the success of scaling energy efficiency and DSM investments.

## CONDITIONS FOR SUCCESS

In practice, any delivery organization model can achieve results given the right conditions and framework.<sup>19</sup> While we previously described key elements of the framework needed to ensure a successful outcome, certain conditions regarding the Delivery Entity itself will also be critical to success. Based on lessons learned from other North American experiences over the past three decades, and strong consensus that emerged from stakeholder discussions, three conditions are critical: independence from government and stakeholders; a strong, entrepreneurial culture and DNA; and clarity of purpose.

- **Independence from Government:** As noted previously, the Entity should be fully independent of government from the outset. To this end, government should not directly name board members, nor should it have any role in choosing management. Rather, government should create a transition advisory committee (TAC) to recommend the initial round of board appointments. The committee can be assisted to this end by external expertise, and should focus on choosing a board of professional, experienced leaders with no direct interest in DSM in Manitoba.<sup>20</sup> A fully-constituted board should establish the Entity's mission statement and objectives, lead the process for finding and hiring the Entity's first CEO, assist the CEO in staffing senior management, and ultimately provide strong governance for the organization. The board should renew itself over time.
- **Strong, entrepreneurial culture and DNA:** The Entity's first order of business should be to secure an effective transition of DSM activities from Manitoba Hydro (including retention of key talents), and to instill a new culture. This culture should be entrepreneurial, performance-oriented, and nimble. The Entity should embrace innovation as a cornerstone of its added value. It should have a sense of mission, taking an active, unabashed role as a DSM *advocate* in fora throughout the province and beyond. And it should act to foster an ecosystem of DSM service providers across the province, using its position to "lead rather than hoard".

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<sup>19</sup> For example, the "top 5" energy efficiency leaders in the U.S., all of which operate under binding targets, include two independent entity models (Vermont and Oregon), one utility-driven model (Minnesota), and two hybrids (Massachusetts and Rhode Island) (see ACEEE Scorecard, October 2014; note that we refer here to the top 5 states based on scores for "utility and public benefits programs and policies"). In Canada outside of Manitoba, the independent franchise Efficiency Nova Scotia is arguably leading the pack in electricity savings, while B.C. (utilities) and Ontario (hybrid) are also strong.

<sup>20</sup> It may be tempting to name a "representative" board to reflect the diversity of stakeholder issues. We strongly advise against this. In our direct experience, representative boards do not maximize effectiveness; rather, they can focus time and effort on negotiating competing members' interests at the expense of a common focus on the Entity's performance and interests. Furthermore, they can increase acrimony and/or lead toward lowest-common-denominator decision-making. Of the three leading independent Entity models in North America, *all* have professional boards comprised of seasoned non-governmental, non-stakeholder individuals.

- **Clarity of purpose:** Finally, we encourage the Entity to remain focused on its key goals. It will be tempting to load expectations onto it: specific projects, or multiple (and sometimes competing) objectives. For example, DSM can contribute to improving productivity, alleviating poverty, spurring innovation, driving employment, growing the economy, attracting industry, enhancing competitiveness, assisting social integration, etc. These co-benefits are important, and should be secured and, where feasible, highlighted. But they should remain the *co-benefits* of a much more focused set of measurable, core objectives: securing electricity and gas savings (e.g. through a GJ-equivalent metric) at lower cost than the alternatives.<sup>21</sup> The Entity cannot be everything to everyone; such expectations are best established at the outset.

In due course, the Entity should consider expanding its activities to encompass related aspects of resource efficiency – be they related to water or transportation fuels – where it can provide clear value to Manitobans, and where doing so builds upon – rather than distracts from – its original mission. It should also be resolutely fuel neutral in its approach.

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<sup>21</sup> While we strongly encourage limiting the number of hard targets to core energy goals, it may be advisable to require reporting on other key metrics such as greenhouse gas emissions reductions, or the flow of benefits to low-income and First Nations households. Reporting on these additional metrics can be built into the Entity's contract with government, as well as instructions provided the government to the PUB.

## MANITOBA HYDRO'S CONTINUED ROLE

Manitoba Hydro is currently responsible for electric and gas DSM in the province. Given the PUB's recommendation, much of this responsibility would, going forward, be transferred to the new Entity. Nonetheless, Hydro can and should continue to play an important and proactive role in encouraging energy savings in the province. In particular, the Crown Corporation can continue to provide significant value by leveraging a combination of existing systems, expertise, and powers.

## OPPORTUNITIES FOR COLLABORATION

Under the new framework, Manitoba Hydro would retain a significant role in supporting the Entity's Demand-Side Management activities. These include most importantly:

1. **Large Industrial Accounts:** Manitoba Hydro's approach to servicing its largest industrial accounts – essentially transmission-connected customers – provides benefit that another Entity would be hard-pressed to replicate in the near-term. This is primarily a function of three factors: relationships, expertise, and synergies. Indeed, Hydro maintains strong, one-on-one relationships with its largest customers (to address a broad range of issues, of which DSM is only a small part), for whom electricity consumption can be a very significant cost centre, and details of which are often considered highly sensitive. Hydro appears to have built a level of trust and confidence that is appreciated by the province's largest industrial customers, and that facilitates cooperation on energy solutions. Furthermore, Hydro's technical team includes a complement of 13 full-time equivalent industrial systems specialists, some of which bring unique expertise in areas specific to the largest customers' industrial processes, allowing them to offer custom engineering solutions that are of value to these clients. Finally, this custom approach applies to a range of engineering solutions, including but not limited to DSM, thus offering a level of integration appreciated by the largest customers.

That said, the challenges to transferring responsibility to an independent Entity are not insurmountable. For example, both the Energy Trust of Oregon and Efficiency Vermont offer very successful, customized DSM programs and services for their own large industrial clients. Furthermore, there is value to ensuring that the overall DSM effort is coordinated by a single entity, rather than being parcelled out: while some processes may be unique, industrial customers also use lights, pumps, motors and other systems that are no different from those in commercial or lighter industrial applications. Finally, we note that in Hydro's current plans, the vast majority of savings from its largest industrial customers are expected to be derived not from energy efficiency improvements per se, but from encouraging self-generation of electrical power from existing waste streams or renewable energy sources.

*We recommend that, at least initially, the Entity consider contracting with Manitoba Hydro for delivery of DSM to transmission-connected industrial accounts. The contract should clearly lay out expectations for delivery of GWh and MW by energy efficiency, on the one hand, and load displacement (including bioenergy) on the other. The contract should also include provisions needed to ensure the confidentiality of customer data.*

2. **Co-Marketing & Lead Generation:** Beyond its technical specialists, Hydro also maintains a complement of twenty-two account managers to service both “key” and “major” commercial and industrial accounts. These account managers are primarily devoted to issues other than DSM, but may be in a position to identify opportunities and effectively generate leads for the DSM team.<sup>22</sup> In addition, Hydro’s DSM efforts can also access other existing communication channels (e.g. marketing materials, bill inserts, advertising, etc.) in order to reach both small/mid-sized commercial as well as residential customers.

Offering DSM services to customers can generate goodwill and value from a customer relationship standpoint. Manitoba Hydro can continue to benefit from this goodwill if it can provide services that align it with the Entity’s own programs and outreach.

*We recommend that the Delivery Entity and Manitoba Hydro immediately work toward a cooperative agreement in which Hydro continues to leverage its channels to generate savings opportunities for the Entity, in return for appropriate visibility.*

3. **Rate Structures:** Through the price signal they send, Manitoba Hydro’s rate structures invariably impact energy efficiency and demand-side management. For example, when marginal rates are lower than the utility’s marginal costs, the economic price signal is depressed, and customers are less likely to adopt otherwise cost-effective energy efficiency options. Recently, Hydro has begun examining changes to its rate structures that could provide appropriate price signals and better align with enhanced DSM, a process recently enacted at BC Hydro through a series of “conservation rate” changes (such changes should not impact *average* rates).

*Clearly, rate structures are and must remain within the purview of Manitoba Hydro, subject of course to review by the PUB. We recommend that Manitoba Hydro pursue its rate structure revision process, and that the PUB review proposals and recommend changes accordingly. The new Entity, in its role as DSM advocate, should be invited to actively contribute to this process.*

4. **Demand Response:** Curtailable rates currently offer Hydro a resource to hedge against capacity constraints. Similarly, emerging demand response opportunities – including voluntary programs to enable direct control of certain end use technologies, dynamic pricing structures, and/or direct

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<sup>22</sup> Approximately 6% of their time is assumed to be devoted to promoting DSM per se.

event-triggered signals and rewards – can offer a cost-effective, “non-wires” means of balancing capacity supply and demand. Some of these opportunities will lend themselves naturally to the active involvement of Hydro, especially insofar as they enable real- or near-real-time load management, while at the same time benefiting from the Entity’s DSM channels, outreach, and partnerships.

*While it does not currently face immediate capacity constraints, we recommend that Hydro be tasked with pursuing demand response opportunities to the extent that cost-effective opportunities exist. Some opportunities should be pursued jointly with the Delivery Entity – for example promotion of smart thermostats that also enable event-triggered signals – given the market channels it will already occupy.*

5. **Customer-sited generation:** Increasingly, customer-sited generation derived from renewable resources is being treated as an appropriate demand-side management measure, a position with which we concur. While the Entity can play an important role in promoting recourse to such resources, Manitoba Hydro too has a critical role to play, notably in identifying opportunities and advising customers with whom it interacts; in defining appropriate interconnection rules; and in establishing supportive rate options.

*We recommend that Hydro be encouraged to define interconnection rules and rate options in support of demand-side renewable energy resources. Hydro’s policies and activities in this area should be reviewed by the PUB on a regular basis.*

## LEGISLATED SERVICES

As part of their core functions, utilities collect and maintain critical consumption data, as well as maintaining billing and collection systems. These data and systems can be extremely valuable for effectively delivering DSM, which is why a growing number of regions now require utilities, as part of their operating licences, to ensure access to third parties for DSM purposes. To facilitate effective and least-cost delivery of DSM to Manitobans, legislation should ensure that:

6. **Data Sharing:** Manitoba Hydro’s current infrastructure of data collection and warehousing, including consumption data, provides valuable support to DSM activities. Detailed consumption data can play a crucial role in a variety of areas, from designing smart program strategies to improving budgeting accuracy to cost-efficient target marketing. Furthermore, in the coming years the advent of “smart” meters, which collect and transmit consumption data in small intervals and in near-real time, will likely provide additional, valuable intelligence for improving the performance of DSM initiatives and/or minimizing costs. Hydro has already invested in its data collection and associated database systems.

*We recommend that enabling legislation ensure that the Entity can access current and future consumption data in a timely and useful manner.<sup>23</sup>*

7. **On-Bill Financing:** Manitoba Hydro currently offers financing with on-bill repayment for an array of customer investments, including (but not limited to) DSM. As other regions are discovering, the utility bill – in part because of exceedingly low default rates – can be a powerful tool for using targeted financing to encourage energy savings, irrespective of the *source* of financing.

*We recommend that Hydro continue to provide its bill and collection platforms in support of DSM-specific financing, including financing offered specifically by or through the Delivery Entity.<sup>24</sup>*

## TRANSITION

Transitioning the bulk of current DSM activities to a new Delivery Entity will require the full collaboration of Manitoba Hydro. The process should in particular be mindful of two goals:

- **Minimize staff uncertainty.** Manitoba Hydro's Power Smart team has proven itself to be professional, courteous, committed and proud. In return, they deserve a process that includes clear, ongoing communications with them, and that focuses on minimizing uncertainty regarding their positions, either within Hydro or with the new Entity. Anything less could put retention of valuable talents at risk.
- **Avoid service interruptions to the public.** Current Power Smart programs should be maintained until the transition is successfully completed, such that the process is seamless both for consumers *and key market channel partners*. Hydro should seek to avoid making significant program changes or additions without the prior consent of the new Entity.
- **Secure rights to Power Smart brand.** The Power Smart brand, currently licensed from BC Hydro, enjoys strong recognition in Manitoba, and efforts should be made to secure transfer of rights to the new Entity. Effort should also be made to *expand* its use through private licensing to partner organizations, including Manitoba Hydro itself (much as BC Hydro does currently with its Power Smart Alliance). However, we are not convinced that loss of the brand will materially impact the success of DSM in Manitoba into the future.

<sup>23</sup> This was built into Vermont's original legislation, and is widely considered a key component of EVT's success.

<sup>24</sup> This is increasingly common elsewhere. For example, in California, investor-owned utilities were recently required to offer their billing and collection platforms (as well as loan loss reserve backstops) for a broad array of *third-party* originated, energy efficiency-specific financing offers. See as well note 18 for related discussion.

The transition process will likely involve a joint committee of representatives from Hydro and from the new Entity, the latter which may evolve over time. We also recommend that government and the PUB each appoint an observer on the committee. Given the professionalism and collaborative approach we experienced from Manitoba Hydro throughout the past month, however, we anticipate that the transition process will take place in a similar spirit.

## CONCLUSIONS & NEXT STEPS

The prescriptions above are designed to be consistent with the PUB's recommendations regarding demand-side management (DSM) activities. They are rooted in both consultations with Manitoban stakeholders, and a thorough review of experience elsewhere.<sup>25</sup> If properly implemented, they should provide value to Manitobans by reducing electricity and gas bills across the province, by securing social and environmental benefits inherent in DSM activities, and by building a platform on which additional resource savings can be added.

If this new model is to take hold, the transition will need to begin immediately, and should include:

- Selecting a team, preferably apolitical, to find and appoint the Entity's initial board of directors, and launch its incorporation and executive search process;
- Creating a transition team to discuss directly with Manitoba Hydro's senior management, and to ensure that Power Smart staff are kept apprised of important milestones with a view to securing key talents;
- Preparing enabling legislation to address each of the three pillars of the new model: ten-year savings targets, oversight authorities, and the Entity's franchise contract.

Additionally, and as previously planned, we anticipate taking the coming months (phase 2 of our engagement) to expand on critical details of the model, in order to define key legislative and/or regulatory requirements. To this end, we look forward to the continued involvement and collaboration of all parties, including Manitoba Hydro, the Government of Manitoba, and interested stakeholders.

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<sup>25</sup> Our recommendations are focused on benefiting from the experiences of regions that have preceded Manitoba. We have sought to neither reinvent the wheel (by retaining key successful components of similar models elsewhere), nor replicate shortcomings (by correcting problems that other models have faced).



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