

Yukon Energy Corporation and
The Yukon Electrical Company Limited

Demand Side Management Plan

January 13, 2011 Focus Group Session

Synthesis Report

Prepared by Paul Kishchuk, MA
Vector Research

February 28, 2011

Table of Contents

Introduction	1
Why is your organization interested in energy issues?	3
What are some examples of Demand Side Management programs and initiatives?.....	3
Are there any specific DSM initiatives not well suited to the Yukon?	5
If you could have your pick, which DSM program or initiative would be the first choice for your organization?	5
What are the perceived barriers to the uptake of DSM programs that come to mind?	7
Who should pay for the design and implementation of DSM programs and initiatives?.....	8
How should it be decided which agency or organization will be the lead on a particular program or initiative?	8
Going forward, what form of engagement would you like to see? Should other business/organizations be involved?.....	9

Introduction

The Yukon Energy Corporation and The Yukon Electrical Company Limited were directed by the Yukon Utilities Board in 2009 to jointly develop a Demand Side Management (DSM) Plan. Development of the DSM Plan is to involve intervenors, communities and stakeholders. The completed DSM Plan will be reviewed by the Yukon Utilities Board.

Both the Yukon Energy Corporation and The Yukon Electrical Company Limited also recognize that electricity use in Yukon is increasing each year. By influencing consumer behavior through the delivery of incentives/disincentives for using electricity at certain times or for certain purposes it is hoped that that need for electricity from new generation sources can be reduced and/or delayed.

The DSM Plan will also be developed within the context of the Yukon Government's *Energy Strategy for Yukon* which calls for the development of a demand management program. The Yukon Energy Corporation and The Yukon Electrical Company Limited are working with the Yukon government to ensure consistency with current DSM initiatives.

On January 13, 2011 the Yukon Energy Corporation and The Yukon Electrical Company Limited initiated public participation in the development of the DSM Plan by hosting a focus group session with an invited group of participants. A total of 15 participants, representing a broad selection of stakeholder and community agencies, attended the January 13 session. The individual participants and the organizations they represented are listed below in alphabetical order:

Shane Andre – YG Energy Solutions Centre
Shannon Clohosey – City of Whitehorse
Marianne Gregoire – YG Highways & Public Works
Lawrence Ignace – Indian and Northern Affairs Canada (Yukon Region)
Rick Karp – Whitehorse Chamber of Commerce
Juergen Korn – YG Yukon Housing Corporation
Laurie MacFeeters – Yukon Anti-poverty Coalition
John Maissan – Leading Edge Projects Inc.
Anne Middler – Yukon Conservation Society
Steve Mooney – Yukon Cold Climate Innovation Centre
Manon Moreau – YG Energy Mines and Resources (Energy Strategy)
John Pattimore – Association of Yukon Communities
Roger Rondeau – Utilities Consumer Group
Mike Wark – Yukon Chamber of Mines
Rebecca World – YG Climate Change Secretariat

A representative from both the Yukon Energy Corporation and The Yukon Electrical Company Limited were also present at the session to assist with technical questions:

Hector Campbell – Yukon Energy
Christopher Cullingham – The Yukon Electrical Company Limited

The facilitators for the focus group session were:

Paul Kishchuk – Vector Research
John Streicker – Professional Engineer

Notes were taken at the focus group session by Ramona Toth.

As the focus group session was the launch for public participation in the development of the DSM Plan, Mssrs. David Morrison and Dwight Redden made brief opening comments on the context for the DSM work being undertaken by both utilities before taking their leave from the session. David Morrison is the President and CEO for Yukon Energy Corporation and Dwight Redden is the General Manager for The Yukon Electrical Company Limited.

The stated purposes of the half-day session were to:

- 1) identify key demand side management issues from the perspective of the agencies and organization represented at the session; and,
- 2) seek direction on how to best involve agencies and organizations present at the session in the development of a demand side management program.

The focus group session commenced at 9:05 a.m. and wrapped up at 12:00 noon.

The focus group session was carried out in accordance with the Chatham House Rule. Participants were advised that they could, subsequent to the session, talk about what they had heard and learned at the session but that they were not at liberty to do so in a way that would reveal the identity of an individual or organization. In fulfillment of the Chatham House Rule commitment made at the focus group session, no statements, remarks or suggestions are attributed to specific individuals or organizations in this report.

As the responses to each of the questions outlined below are presented in no particular order, no meaning should be attached to the order in which a response appears within a list.

Why is your organization interested in energy issues?

- Because we are working to implement government policies (Energy Strategy, Climate Change Strategy) or programs (homeowners, energy efficiency programs, infrastructure, Cold Climate Innovation);
- We represent businesses and industry who as large electrical energy consumers are correspondingly exposed to cost increases;
- We represent people and organizations concerned about CO₂ emissions, environmental impacts, energy efficiency (conservation), electric bill costs, energy security; and,
- We represent people and organizations hoping to educate and create a culture of electrical energy conservation among people and within organizations.

What are some examples of Demand Side Management programs and initiatives?

- The encouragement of a “conservation culture” where behaviors are shifted and knowledge encouraged so that people are aware of their individual consumption impacts;
- Programs delivered by B.C. Hydro for low income individuals/renters;
- Consumer awareness tools such as pie charts for electricity rates at certain times of the day;
- Education about how to conserve electricity so that everyone can make changes;
- Energy conservation or efficiency programs via the customer base such as energy rebates, load shifting or adding loads;
- Good “real time” information (e.g., graphs, billboards, turning off streetlights) to make it easier for people to visualize and comprehend limits and know when to shift loads;
- Hot water tank timers and low flow showerheads;
- Targeted education and implementation of programs for low income people and renters (could include modifications to rate structure) since there is no point in delivering programs to people who cannot take advantage of them;
- Transparent information for consumers so they can understand how the different rates, riders, rebates and taxes all fit together;
- DSM incentives for renters whose electrical bills are paid by their landlords;
- Energy efficient building design since good design is more economical than retrofitting;
- Electricity rate structures that discourage electricity consumption at times of hydro-electric under-supply and encourage electrical energy use at times of hydro-electric over-supply;

- Standards/regulations for all new buildings through revisions to building codes that incorporate energy efficiency;
- Strategic use of energy;
- Supply side management of electricity by the utilities (e.g., during peak morning and evening periods);
- Load shifting by mines so that consumption is reduced during times of peak consumption on the grid, perhaps through monetary disincentives tied to whether or not diesel-generated electricity could be avoided through reduced electricity consumption by industrial customers (it was pointed out that coordination of demand responses with large-scale customers is typically already being done by electricity suppliers);
- Better bill information so that consumers know when they've jumped to a higher rate block, similar to a telephone bill that shows the difference in cost if you made a call during a peak period versus a discount period versus a "deep" discount period, perhaps there could be an addendum to the bill explaining the details of how the bill was calculated;
- Consumer education (including units of measure and other basic electricity concepts) so that when consumers are reviewing their bills they understand how the bills were calculated;
- An understanding of the audience and client base needs to be developed to be able to properly target DSM information to different consumers;
- We should consider all potential DSM opportunities rather than focusing on savings in just one area of electricity consumption;
- Perhaps larger-scale consumers could sign some sort of risk/confidentiality waiver and work directly with the Energy Solutions Centre through the sharing of bill information; and,
- Government to government transfers could be tied to implementation of energy efficiency and conservation measures (parallel idea to sustainability plans and gas tax funding).

Are there any specific DSM initiatives not well suited to the Yukon?

- Adoption of time-of-use rates in the Yukon needs to be further explored including comparisons with other measures such as load shifting from day to night;
- If new supply cannot be avoided, it was pointed out that some other jurisdictions are reconsidering nuclear options, something which may not be acceptable to Yukoners;
- DSM initiatives that create consumption disincentives for mine operators need to recognize that electricity is an integral input to mining processes, mines exist to make money and reducing production reduces income. Unexpected shutdowns can affect workers pay. This is not to say that the mines and mine workers disagree with DSM, just needs to be done in a feasible way;
- The obligation to serve provision of the *Public Utilities Act* (i.e., if a mine builds a power line to the grid the utility must build capacity and supply electricity), which can adversely affect existing customers on the grid, should perhaps be revisited;
- If supply is to be scaled back at times of peak consumption, there needs to be a public discussion about how to choose who gets power first (i.e., whose electricity supply is reduced);
- DSM initiatives should be avoided that increase the use of diesel generation in or near communities where noise and air pollution are issues. Diesel generation may best be located next to the industrial users, like mining operations, where waste heat from the generators could economically be used to heat buildings;
- We should look at the larger consumption issue and not just savings in one area; and,
- DSM initiatives that result in less electric heating being available to residential customers and indirectly contribute to increased use of heating methods which diminish air quality (such as the burning of wood or oil to produce heat), should be discouraged.

If you could have your pick, which DSM program or initiative would be the first choice for your organization?

- A public education campaign to promote awareness of how to reduce electricity consumption [suggested by five participants];
- All new building construction built and maintained to be as energy efficient as possible.
- An on-going marketing campaign about electrical energy as no one understands it and doesn't worry about it until it's gone;
- Continued evolution of our electrical bills (monthly usage chart on current version of electrical bill is useful), however information needs to be at grade 7 level to ensure greatest number of consumers benefit from information availability;

- Design and implement tools/information for employees of large organizations (who now feel powerless to conserve energy in the workplace) to allow them to demonstrably conserve energy in the workplace;
- Design and implementation of an electricity rate structure that encourages DSM-like behaviors;
- DSM measures that have some sort of “price shock” aspect (e.g., like over-threshold internet access charges), can be effective as people will learn from it;
- Electrical energy guidelines, regulations and accessible information needs to be specific to each Yukon community as each community is different;
- Employees of large organizations are also electricity users at home so education efforts in the workplace can have indirect benefits in the residential sector;
- Energy audits in small communities to establish baselines for electricity conservation initiatives;
- It needs to be remembered that it is difficult to ask industrial users such as mines to shut down or scale down on short notice as it is akin to asking mine workers to give up their pay cheques, such shut/scale downs need to be properly planned out to minimize effects on mine operations (and it was noted that this type of planning is already done);
- Loan programs for upgrades whereby the savings are used to pay off the loan;
- Money is required for all DSM programs, since implementing DSM programs can be far cheaper than building new infrastructure or waiting for existing infrastructure to wear out;
- Programs that result in implementation of DSM programs are required;
- Regulations to encourage energy conservation (such as improved building codes), while likely the most tricky to implement, will be the most valuable/effective;
- Smart metering for households (including smart hot water heaters);
- The electrical utilities should network with consumers and businesses to transfer information about the benefits of electrical energy conservation, people need to be able to see the “light at the end of the tunnel” if they are to adopt new consumption habits that will stay with them;
- The greatest conservation successes will come from more energy efficient building design and construction rather than from retrofitting existing buildings;
- Thorough follow-up and assistance with DSM initiatives and programs to ensure effective implementation and actual savings – for example, it’s not good enough to hand out low-flow showerheads if people don’t know how to install them and they end up sitting on a shelf;
- Transparent linkages between electricity-conserving behaviour and cost savings; and,
- Whatever programs are chosen to implement, the potential for savings exist right now, let’s get them implemented ASAP!

What are the perceived barriers to the uptake of DSM programs that come to mind?

- Conservation is a lifestyle change that people need to make and if people are to change they must perceive that it is somehow “worth it”;
- Finding funding for DSM programs will be a barrier, the funding has to come from either electricity rates or taxes;
- Good program design requires the collection of accurate statistics on the number of people on electric heat as well as the number of people living in houses that that need retrofitting;
- If minimum specifications are regulated (i.e., building codes) retrofitting will become even more costly in the future; we already have an affordable housing problem so if building codes are changed to increase minimum standards, housing will become even less affordable, this also needs to be addressed; it was pointed out that the payback on more efficient building construction is immediate, a person will pay less in energy costs than they will in the incremental increase in mortgage costs (in other words the savings in operational costs more than offset the increase in capital costs);
- Incentive-type programs/initiatives are not always worth it in terms of conservation results;
- People are generally willing to pay more for something that brings convenience, problem with electricity is that it costs the same whether used for a basic need (e.g., hot water) or a convenience (e.g., hair drier);
- Reductions in consumption will reduce revenues for the utilities so in times of surplus electrical energy the utilities will be less vigilant about conservation, as a result need to think about how to ensure energy conservation is “always in fashion” for the utilities and consumers alike;
- Retrofitting is expensive and may not be feasible for everyone;
- Strong leadership from YEC and YECL and YG is required. “If you build it, hopefully people will follow”;
- The capacity of people to adopt changes needs to be considered in the design of DSM programs. For example, someone working 3 jobs will not likely have the energy/time to make good conservation choices;
- The greatest challenge is getting buy in from the public to conserve energy;
- There are currently no incentives for renters to conserve electricity; and,
- There is always a fear of change and that people may feel that they don’t need education so there could be public resistance if there is not proper information.

Who should pay for the design and implementation of DSM programs and initiatives?

- Both ratepayers and taxpayers have a duty to pay (and likely both will pay);
- DSM initiatives likely cannot offset all the need for new generation, rates will go up as new generation is built, public may perceive that DSM is wasted effort since rates are going up anyways, how to convince people that rates will go up less if they conserve electrical energy?;
- Educating taxpayers is the same thing as getting government to pay;
- Government is already contributing because of the cross subsidy from government to residential customers;
- Remember that conservation programs aren't all about costs since reducing consumption results in saving for consumers; and,
- The bill subsidies now in place should continue to be in place until DSM programs/initiatives are implemented and education activities are in progress.

How should it be decided which agency or organization will be the lead on a particular program or initiative?

- Both utilities (YEC & YECL) should make the case for DSM to the public and then agencies and organizations should make contributions as appropriate;
- Collaboration is important but one entity needs to “take the reins” and lead and also facilitate partnerships;
- Let's get going on a Public Awareness Campaign!;
- Partnerships are key;
- Terms of Reference to the Yukon Utilities Board could be a starting point;
- The Department of Education should be involved so that young people can be involved and perhaps will come home and help educate parents;
- The Yukon Government and the electrical utilities have concurrent responsibility for DSM; and,
- Ultimately it will be the government's lead, as they will direct the utilities that they implement DSM programming (it was pointed out that utilities are already on board);

Going forward, what form of engagement would you like to see? Should other business/organizations be involved?

- Among participants there was general agreement that the focus group session was a good start and that the organizations they represent would be glad to continue to participate and help in any way they can, including communicating with the members of their organizations;
- An organization represented at the focus group noted they have networking as part of their mandate and would be happy to facilitate further discussion on the topic of DSM;
- Continued facilitated discussions like this one, having a variety of stakeholders to work with is essential;
- Consumers should be encouraged to contribute ideas and engage and participate in DSM planning;
- Continuing to work in a forum similar to today’s focus group would be beneficial;
- Create a “DSM website” hosted by the utilities that can be a repository for DSM information for this working group as we move forward;
- Create an email list for the focus group participants as a way of staying in communication;
- Develop strategies to get input from the public;
- Empower grassroots individuals and organizations sooner rather than later and keep them informed;
- Partnerships between the utilities and other agencies and organizations;
- Real timelines need to be set and communicated, organizations need to be kept informed;
- The utilities need to have direct contact with the business community to discuss DSM initiatives;
- The utilities should take ownership of the issue at the start and then utilize other groups to move forward;
- There should be direct discussions between the utilities and industrial consumers (i.e., mines); and,
- Utility-led group discussions on DSM within organizations represented at the focus group.

