



## Energy Conservation Workshop Report



April 19, 2012

## **1. Introduction**

At the Yukon Energy Charrette in March 2011, Yukon Energy brought together governments, Yukoners and energy experts from across Canada for three days to discuss and share information on resource options for Yukon's energy future. One of the key outcomes from the charrette was Yukon Energy's commitment to continue engaging stakeholders, governments and the public in planning for the future. To meet that commitment and plan in public, Yukon Energy is holding energy workshops on a series of topics and resource options. The Energy Conservation Workshop is Yukon Energy's fourth workshop.

The information gathered from the workshops and public meetings is being used to inform and direct the work of Yukon Energy and its consultants in carrying out the resource options planning. The information gathered from this workshop will also be used by the Demand Side Management Working Group (YG, YECL, and YEC) to help them develop a conservation program in the Yukon as directed by the Yukon Utilities Board (see Drivers of Demand Side Management Presentation on YEC website).

This is the report from the Energy Conservation Workshop and Public Meeting held on April 19<sup>th</sup>, 2012 in Whitehorse.

## **2. Workshop Objectives**

The workshop objectives were developed with Yukon Energy and their partners. The workshop partners were: Yukon Electrical Company Ltd, Energy Mines and Resources, (Yukon Government), Yukon Conservation Society, the Yukon Utilities Consumer Group and Alexco Resources. The partners contributed their expertise and were supported by consultants from Morrison Hershfield Engineering, ICF Marbek and John Streicker. The objectives that guided the workshop were:

1. Examine energy conservation in the context of the YEC planning principles and 20-Year Draft Resource Plan;
2. Identify the environmental and socio-economic issues and opportunities in relation to energy conservation in Yukon;
3. Educate the participants as to conservation potential and opportunities;
4. Understand the regulatory framework in which the Demand Side Management (DSM) Working Group has been working; and,
5. Obtain feedback from participants on how to deliver successful energy conservation programs.

### 3. Workshop Participants

Over 65 invited and interested workshop participants attended the half day session. Participants represented the following stakeholders, governments and industry:

Yukon Energy Corporation	Yukon Environmental and Socio-Economic Assessment Board
Yukon Electrical Company Ltd.	Town of Watson
Kwanlin Dun First Nation	Green Heat Technologies Ltd.
The Village of Carcross	Northern Windows and Doors
City of Whitehorse	Narrow Gauge Construction
Alexco Resources	ICF Marbek
Champagne Aishihik First Nation	Northern Climate Exchange
Yukon Conservation Society	Yukon Development Corporation
Tipping Point Strategies	Village of Carmacks
Association of Yukon Communities	Leading Edge Projects
Yukon Utilities Consumer Group	Whitehorse Chamber of Commerce
Government of Yukon (Highways and Public Works Property Management Division, Energy Solutions Centre, Energy Mines and Resources, Department of Education, HPW Capital Development, Climate Change Secretariat)	Yukon Cold Climate Innovation Centre

The workshop was also attended by Yukon Energy staff and consultants.

### 4. Presentations

The workshop provided the opportunity for Yukon Energy to share the findings from the Conservation Potential Review with the participants as well as for key stakeholders, partners and governments to present their information. The following presentations were delivered at the workshop and are posted on the Yukon Energy website at [www.yukonenergy.ca/energy/public\\_engagement/energyworkshop/](http://www.yukonenergy.ca/energy/public_engagement/energyworkshop/).

- a) ***Why Demand Side Management?*** John Streicker, P.Eng., Science Advisor and Climate Change Expert, Northern Climate Exchange, Yukon College.

- b) ***Drivers of Demand Side Management in the Yukon.*** Jessica Thiessen, Manager Energy Conservation.
- c) ***Results from Conservation Potential Review.*** Paul Robillard, Director, ICF Marbek.
- d) ***Alexco Demand Side Management & Audit Review.*** Peter Johnson, Construction Manager, Alexco Resources.
- e) ***Utilities Consumers' Group Demand Side Management Presentation.*** Roger Rondeau, Yukon Utility Consumers Group.
- f) ***Building a Culture of Conservation Beyond the Utilities.*** Anne Middler, Energy Coordinator, Yukon Conservation Society.

## 5. Workshop

Following the presentations the participants were organized into facilitated groups ranging from 6 to 8 people. The groups were asked to discuss and record their ideas and comments with the intention of the work being shared with the participants, the public and included in the Yukon Energy's resource planning activities and the Demand Side Management Working Group's planning and program design work. This work will also be used to inform the ongoing resource planning work.

The participants were asked to report on the following questions that are related to how to deliver successful energy conservation programs:

### 1. Who needs to be involved in the delivery of conservation programs?

- Who should be involved?
- What are the barriers?
- What are the opportunities?

### 2. What is the role of the Utilities and government in delivering conservation programs?

### 3. What is the community's role in ensuring conservation programs are successful?

### 4. What groups/organizations currently exist that can facilitate the delivery of conservation programs? How should they be engaged?

### 5. How can existing groups and interested individuals work to integrate electricity efficiency and conservation into their broader community based conservation initiatives?

## Results

The following is a summary from the workshop and public meeting.

### Involvement in Delivery of Conservation Programs

*Conservation programs should involve:*

- Consumers, utilities, developers, trades, large users, industrial sector, commercial sector, supply chain actors, all levels of government, Yukon Housing, chambers of commerce, professional organisations, non-governmental organisations, Utilities' Consumers Group, Yukon Conservation Society, Yukon College, children, education system, technology suppliers, implementers representing successful programs from outside Yukon.

*Potential barriers include:*

- Information is non-existent (the public doesn't know how electricity is used), information can be hard to find, there can be too much information, or it can be confusing.
- Communities do not have the financial resources within their regular budgets to implement/pay for programs.
- Politicians need to make financial commitments in the short term to realise benefits over the long term.
- Lifecycle costing is not part of personal product purchasing decisions.
- Programs adopted from elsewhere may be ineffective in the northern context.
- There are currently no incentive policies for energy time of day pricing, audits, loans and grants.
- DSM resources and programs are Whitehorse centric.
- There is a suspicion of new technology.
- The public does not understand what the motivation of public utilities is.
- There is ratepayer skepticism because it is the business case of the utility to sell electricity.
- There are limited options and incentives currently available to implement energy conservation programs.
- Resistance to change and mindsets of public, corporations and government - apathy, too easy to not be part of the solution, and perceptions "nothing I can do would make a difference".
- Understanding and considering the impact of programs, peak saving versus total electricity reductions.
- Obtaining sustained user change, needs to be mainstreamed and not an add-on.
- There may be a loss of incentive for conservation if excess capacity becomes available.
- Billing systems for industrial customers – hard to coordinate load on 9 different systems/invoices.
- Current metering and pricing signals is a barrier.

- There are no incentives for landlords or tenants to conserve depending on who pays utility bill.
- Industry backlash.

*Potential Opportunities Include:*

- Saving energy and money.
- Develop partnerships among all energy users, utilities, and policy makers.
- Develop different programs and priorities for different communities (one size does not fit all).
- Personalise achievements toward targets/progress
- Work with First Nations to build capacity and adopt programs.
- Create a rewards system for groups implementing DSM to provide incentives for industrial customer, energy performance contracts.
- Identify user classes and tailor programs/incentives to each group.
- Offer energy conservation programs at Yukon College and as part of the trades programs.
- Include in the public school curriculum.
- Implement seasonal rates.
- Examine the applicability of smart meters.
- Complete the net metering policy to encourage distributed energy which would allow the promotion of rooftop solar PV and solar thermal.
- Jobs from the development of a building retrofit program.
- Use social marketing and the local media to promote energy efficiency.
- Energy performance contracts with users.
- Public education - show consequences of no DSM, make electricity use more visible.
- Public product education e.g. promote most efficient energuide products, standardised labelling, energy labelling of housing, choice editing, develop web-based tool to assist in lifecycle costing etc.
- Yukon Utility Board should look at costs of all energy sources not just electricity rates to promote conservation for all energy sources, not just electricity.
- Develop a simplified one stop shop for information and program delivery that is flexible and reflects Yukon's diversity.
- Encourage ground-source heat pump for peak shaving.
- Encourage YG and the City of Whitehorse to develop energy efficient building codes.

**Utilities and Government's Roles and Responsibilities in Delivering Conservation Programs:**

*Utilities should:*

- Develop, implement, and evaluate conservation programs.
- Educate the public and stakeholders on need for conservation and programs and work with them in developing programs.

- Require large customers implement energy efficiency measures, have best practices in place.
- Track electrical usage in sample groups for each sector. Share usage and supply data with partners to help recognise and implement energy efficiency opportunities. Use information available on energy usage to outline feasibility and impact of actions so that government can provide policy support for implement programs. Use product knowledge to educate and create programs that encourage consumers to choose most efficient products.
- Promote early adopters by providing some good PR and provide awards for outstanding performance. Provide a report card on effectiveness of conservation programs that promotes accountability, raises public awareness, and gives opportunity for community input

*Yukon Territorial Government should:*

- Need to lead by example, promote conservation in the schools and curriculum (K-12).
- Provide programs for professions and trades in fields that support energy conservations.
- Policy development such as climate action plan, energy plan, and climate adaptation plan and adopt GHG, renewable energy, and energy conservation targets. Implement a net metering program. Direct the utility to achieve conservation targets and implement programs.
- Enable utilities to implement conservation programs. Encourage economic development in support of conservation (innovation, incentives, and policies).
- Mandate energy efficiency in codes.
- Target policies to groups and sectors such as government users, rate payers, mines, low income, renters/landlords, and developers.
- Reward innovation.

*Municipal Governments should:*

- Lead by example and be early adopters.
- Enact complementary codes, by-laws, tax incentives, and planning practices (planning with consumption in mind) that promote conservation.
- Reward innovation.
- Show vision in the community plan and money will come in support of that vision. Remind the community of that vision.

*First Nations should:*

- Lead by example.
- Could provide economic development opportunities.

### **The community's roles in ensuring conservation programs are successful**

*The community should:*

- Create a culture of conservation with participation from everyone in all sectors.
- Shift culture from instant gratification to long term savings.
- Maintain in the long term the awareness for the need to conserve.
- Be watch dogs to the utilities and government.
- Be a source of ideas.
- Challenge or compete with other communities to obtain energy reductions.

### **Existing Groups/organizations that can facilitate the delivery of conservation programs and how they should be engaged?**

*Consumers should:*

- Participate in the program design.
- Be provided with information to make choices that reduce electricity consumption.
- Have tools to help them understand lifecycle cost savings.
- Take responsibility in their energy use through behaviour change and be held accountable.
- Be educated of peak usage so they can adjust consumption to be part of the solution.

*Industrial users should:*

- Be role models, by providing leadership by making long-term investments in energy efficiency.
- Be involved in the development of conservation program planning.
- Reward employees for green ideas.
- Help make the business case for conservation work.
- Evaluate/audit designs of projects and buildings at the design stage to maximise economic opportunities for efficiency.

*Developers should:*

- Have state of the art energy efficiency in new buildings.
- Think of conservation at the design stage.

*Chambers of Commerce/Private Sector should:*

- Help developers, and private sector businesses to be ambassadors for energy efficiency and feed information to government and utilities in conservation program design.
- Test potential programs.
- Provide expertise to recognise and implement opportunities.
- Be role models and reward employees for green ideas.



- Have retailers carry products that promote energy conservation as well as adopt best practices.

*Yukon College and Yukon Cold Climate Innovation Centre should:*

- Lead by example and become early adopters.
- Offer courses and research related to conservation opportunities in the northern climate.
- Launch pilot projects in implementing conservation measures and to test new technology.

*Schools should:*

- Lead by example and become early adopters.
- Teach energy literacy and awareness of conservation to children as a means to bring culture of conservation to the community similar to the recycling message.
- Provide energy usage and conservation assignments for children to bring home.

*Non-governmental organisations should:*

- Provide advocacy and be a watchdog.
- Fill in knowledge gaps.
- Ensure that programs are equitable.
- Provide assistance in program delivery, particularly in remote communities.

*Energy Solutions Centre should:*

- Support program delivery, provide program funding, and provide resources on examples of energy efficiency.

*Yukon Housing should:*

- As building experts, promote more energy efficient building standards.

## **6. Summary**

The workshop participants recognise that conservation is an important part of meeting future energy needs. For energy conservation to be successful it requires involvement by all individuals and organisations. First and foremost, both the utilities and all governments must be role models for energy conservation. This means they should work together to promote energy efficiency and be early adopters.

Yukon Energy Corporation and Yukon Electrical Company Ltd. who hold the information on energy usage have the data to help develop programs for all sectors as well as provide a resource to customers on energy usage. The governments and the utilities need to work together and share information to inform government and utility policies, regulations, practises

and opportunities. The governments need to provide the utilities the policy tools to enable them to provide effective energy conservation programs. The utilities, with their understanding of energy planning need to inform the governments of the conservation opportunities and the resources required. There is also an opportunity for Yukon College and the Northern Research Center's Cold Climate Innovation group, NGOs and the private sector to provide technical input on what types of programs should be adopted. Government energy, greenhouse gas reduction and renewable energy policies should be aligned with the mandates and objectives of the utilities. This also includes green procurement, building codes, investment, and pricing signals. Programs should be tailored based on usage patterns and requirements of particular sectors. The utilities should be able to monitor the effectiveness of programs, adjust programs based on effectiveness, provide accountability, and ensure sustained promotion of energy conservation programs. Successful programs from elsewhere should be looked at as a starting point; however, their effectiveness needs to be evaluated in the northern context.

There is a need for capacity building including consumer education of energy efficiency products, training opportunities for trades in conservation fields, research and piloting in the application of technologies and programs in the north. In particular, there is a significant opportunity within the school system to provide students with energy literacy which could enable them to bring conservation home. Programs need to be equitable to both low-income and renters. Governments can provide financial and policy support to overcome these barriers.

Information needs to be available to consumers on the lifecycle costs of products, choices and initiatives to enable the government, industry, purchasers, and ratepayers to make energy conservation choices understanding the full cost of their decisions. Governments need to plan long term and consider the life cycle costs and opportunities of their choices. Financial institutions should also be encouraged to recognise the long term benefits of energy efficient choices and develop programs with long term benefits in mind.

It is important that conservation includes industry and does not appear to target only consumers. There is an opportunity for industry to be leaders by adopting best practices in energy efficiency both in looking to existing operation and equipment and in the design development stages of projects. All sectors can learn from such successes.

Overall, the key to success of an effective conservation program is knowledge and the development of a culture of conservation. Everyone should be aware of the impact of energy usage and be an active participant in the effort to conserve. Leadership by governments, utilities, businesses, utilities, and individuals to this mandate will ensure effective and enduring reductions in energy demand.

Yukon Energy thanks all those that participated in the workshop and public meeting. The presentations from the workshop experts along with the responses to the workshop questions are being incorporated into the development of Yukon Energy's energy conservation programs. Yukon Energy is committed to working with its partners, sharing information and to keep talking.