

2007 Annual Report
of the
BC Hydro Electricity Conservation & Efficiency Advisory
Committee

Prepared by: The EC&E Advisory Committee
December, 2007

EXECUTIVE SUMMARY

BC Hydro's existing domestic generation system is 90% clean. However, for the last several years BC has had to import power to meet the demand for electricity and much of that power comes from non clean sources. The demand for electricity is estimated to grow by 25 to 45 per cent over the next 20 years. What was once a significant surplus of electricity is now an emerging deficit, resulting in the province becoming a net importer of electricity. As the demand for energy grows, BC Hydro will face many challenges and choices with respect to meeting the province's electricity supply for the future. Filling the emerging electricity gap will be met in three fundamental ways: conservation and efficiency measures, buying more from independent power producers, and building new generation capacity.

The 2007 BC Energy Plan, released in February 2007, directs BC Hydro to seek to meet 50 per cent of B.C.'s future incremental electricity resource needs through conservation and efficiency measures, also known as Demand Side Management. The Province has also legislated targets to reduce greenhouse gas emissions by 33% below 2007 levels by 2020 and 80% or more by 2050. Although achieving these targets will involve changes beyond the electricity sector, success will rely on substantial conservation and efficiency efforts across the economy.

There are a number of reasons why meeting increased electricity demand through conservation and efficiency measures is important. First, it avoids the significant capital costs associated with the construction of new generation facilities i.e. it can be less expensive than building new capacity. Second, it avoids externalized social and environmental costs associated with the construction of new generation facilities. Third, given that most marginal/incremental demand for electricity is presently met through electricity produced from fossil fuels (be it from BC Hydro's own fossil fuel based generation facilities, or from power purchased from other producers), electricity conservation and efficiency measures may play an important role in the reduction of green house gasses associated with electricity consumption in British Columbia.

Electricity conservation measures refers to measures that encourage or result in customers using electrical components less. Examples include: reducing the number of hours lights are turned on, reducing the number of hours appliances such as dishwashers and dryers are used (by operating them only when filled to capacity), turning off computers and computer monitors when not being used, using air conditioners less etc. Electricity efficiency measures refers to measures that result in electricity being used more efficiently. Examples include: replacing inefficient technologies such as incandescent seasonal light-bulbs with energy-efficient LEDs, replacing inefficient electric motors with new high efficiency versions etc. Conservation and efficiency measures will reduce the overall amount of electricity consumed in a given year. A related measure is peak load management which refers to using less electricity at specific times. Examples include delaying turning on the dishwasher from after dinner until you go to bed. As BC Hydro needs to have the capacity to meet electricity demand at its peak in any given day or season, peak load management measures can reduce the need to build new generation capacity.

The Electricity Conservation and Efficiency Advisory Committee (EC&E Advisory Committee) was established by BC Hydro in September 2006, to assist BC Hydro in achieving its electricity conservation and efficiency goals. The 23 person Committee includes a broad range of stakeholder and First Nations' perspectives from across the province. The mandate of the EC&E Advisory Committee's first year of operation was to:

- ◆ Provide a forum for identifying and responding to key issues associated with Demand Side Management including institutional issues that go beyond BC Hydro;
- ◆ Provide advice regarding how to structure meaningful opportunities for other stakeholder and First Nations input to BC Hydro's electricity conservation and efficiency programs, and to assist BC Hydro in designing its ongoing approach to creating those opportunities for input; and
- ◆ Provide advice and input with respect to BC Hydro's guiding strategies, principles, and individual program concepts.

Initially, the EC&E Advisory Committee devoted significant time to building a common knowledge base among Committee Members on how BC Hydro is structured, the nature of BC Hydro's business and how it plans its operations, the regulatory context that BC Hydro operates within, and the wide range of perspectives and experiences each of the Committee Members brought to the discussions.

As the EC&E Advisory Committee completed its orientation work, discussion began to focus on four key areas including Codes and Standards, Strategic Framework, Rates and Barriers to Demand Side Management. In order to facilitate in-depth discussion of these areas, the Committee established Working Groups for each. These Working Groups met between regularly scheduled meetings of the EC&E Advisory Committee and developed information and recommendations for consideration by the Committee as a whole. Since its creation the EC&E Advisory Committee has met eight times, and the various Working Groups have met a total of seventeen times.

Over the past year, the EC&E Advisory Committee has provided BC Hydro with:

- ◆ Significant informal input through the discussions that have taken place in Committee meetings and Working Group Sessions;
- ◆ Formal recommendations on both a strategic framework for BC Hydro to use in pursuing and structuring initiatives to achieve its long term electricity conservation and efficiency goals, and on the role that BC Hydro can and should play in relation to establishing and supporting codes and standards required to achieve those goals; and
- ◆ A matrix outlining barriers that currently exist in relation to implementing Power Smart programs.

The EC&E Advisory Committee and its members support BC Hydro's vision to act together to find solutions with respect to conservation and sustainability through supporting appropriate leadership, policies, education and community engagement. More specifically, the EC&E Advisory Committee fully supports BC Hydro's Conservation and Efficiency long term goal and the Provincial Energy Plan target of meeting at least 50 per cent of future incremental electricity resource needs by 2020 through conservation and efficiency measures. Although some Committee Members are not certain this goal is achievable, and some believe it is not sufficiently bold, all strongly support it and believe it should be vigorously pursued. In addition the Committee believes that the achievement of this goal will accomplish multiple objectives from environmental and social perspectives and represents the most cost effective source of addressing the emerging demand supply gap.

This said it will be important to recognize two things. First, given the lead time required to construct new generation capacity, the timing of any decisions to forego construction of new generation capacity in favour of meeting increases in electricity demand through conservation and efficiency programs needs to be based on the demonstrated effectiveness of those programs to deliver savings in electricity consumption: failure to do so could result in critical future shortages in electricity. Second, it needs to be recognized that BC Hydro cannot successfully achieve this goal on its own, and many of the required actions extend beyond the mandate of BC Hydro; while BC Hydro can and should play a leadership role, success will require a sustained, collaborative effort by BC Hydro, governments (federal, provincial, municipal, and First Nations), the business community and BC Hydro's residential customers.

As the EC&E Advisory Committee moves into 2008, it intends to shift from higher level discussions of principles to more detailed input into key BC Hydro strategies. Central to this the Committee will advise BC Hydro on where it needs to concentrate its efforts in relation to the Strategic Framework recommended by the Committee (specifically those aspects within the control of BC Hydro or those that BC Hydro has the ability to significantly influence), how it can take leadership in this regard and the need to commit additional resources required to effectively engage in discussion on these issues. In addition, the EC&E Advisory Committee anticipates inviting BC Hydro to engage the provincial government in a discussion directed at supporting that the mandate of the Committee be broadened from a focus on electricity conservation and efficiency issues, to an overall consideration of energy conservation or using the Committee's work to date as a catalyst for a more structured discussion on this topic outside the Committee.

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BACKGROUND

The EC&E Advisory Committee was first convened by BC Hydro in September 2006, as an outcome of an application filed by BC Hydro to the British Columbia Utilities Commission (BCUC). BC Hydro and intervenors committed to establishing and utilizing this Committee as a practical means for stakeholders to be heard and to have a tangible impact on the electrical future of British Columbia.

The 23 members of the EC&E Advisory Committee represent diverse stakeholder and First Nations perspectives and experiences. Under their mandate to provide BC Hydro with advice on electricity conservation and efficiency, the Committee Members have pledged to assist BC Hydro with the design and implementation of programs that will promote a culture of conservation and efficiency in British Columbia.

The EC&E Advisory Committee's Terms of Reference (ToR) provide for the issuance of an annual report by the Committee. This is the first such annual report. This annual report reflects a consensus of the committee. This means committee members fully support the annual report as a whole even if there are certain aspects of the report that a committee member may not support on a stand alone basis.

EC&E ADVISORY COMMITTEE MEMBERSHIP

The EC&E Advisory Committee consists of 23 individuals representing a diverse range of gender, age, geographical regions, technical and/or academic experience, customer classes and perspectives.

Committee membership consists of individuals drawn from:

- ◆ Academia;
- ◆ First Nations;
- ◆ Independent Power Producers;
- ◆ Environmental Non-Governmental Organizations;
- ◆ Local, Provincial and Federal Governments;
- ◆ Residential, Commercial, Institutional and Industrial Customers;
- ◆ Residential and Commercial Trade Allies; and
- ◆ Utilities.

Three BC Hydro staff members participate on the Committee as members; their role includes observation and providing insight on BC Hydro programs, plans and activities.

The members of the EC&E Advisory Committee and their affiliations are listed in Appendix B.

SELECTION OF EC&E ADVISORY COMMITTEE MEMBERS

In selecting individuals to participate on the EC&E Advisory Committee, BC Hydro issued a Request for Expressions of Interest, undertook an initial screening based on pre-established criteria and made a final decision with the objective of forming a committee that:

- ◆ Represents a diversity of sectors, views, perspectives and interests;
- ◆ Includes a membership with diverse representation of age, gender and geographical location;
- ◆ Seeks to provide some continuity in membership from the Provincial Integrated Electricity Plan (IEP) Committee process;
- ◆ Includes individuals who have participated in related historical engagement processes;
- ◆ Includes participants from regions in the province where electricity resource development is under consideration;
- ◆ Accommodates BCUC intervenors;
- ◆ Welcomes participants who are, or could become, strategic partners in the implementation of current and future Power Smart programs;
- ◆ Welcomes participants who could provide BC Hydro with access to useful sources of relevant data; and
- ◆ Gives precedence to applicants who are known to be constructive in their participation in engagement forums.

The term of all Initial Appointments was one year effective as of September 1st, 2006, plus an additional term of one or two years determined on a lottery basis.

TERMS OF REFERENCE

EC&E Advisory Committee Members were provided with draft Terms of Reference prior to the first meeting. Members participated in a detailed review and discussion of these terms at the first meeting, September 19, 2006. The revised ToR were reviewed at second meeting and agreed by the entire Committee. These ToR are attached as Appendix C.

Some key elements of the ToR are highlighted and/or expanded on in the sections that follow.

MANDATE

It is forecasted that over the next 20 years the demand for electricity will grow by 25 per cent to 45 per cent. This increase in demand will need to be addressed through purchases of electricity from Independent Power Producers (IPPS), the construction of incremental generation capacity and/or through conservation and efficiency measures.

Under the 2007 BC Energy Plan, released in February 2007, the B.C. Government established a policy action to acquire 50 per cent of BC Hydro's incremental resource needs through conservation by 2020.

At the outset, the initial mandate of the Committee was to provide advice and input to BC Hydro with respect to Demand Side Management (DSM) programs that can assist in achieving BC Hydro's conservation and efficiency goals including:

- ◆ Providing a forum for identifying and responding to key issues associated with Demand Side Management including institutional issues that go beyond BC Hydro;
- ◆ Providing advice regarding how to structure meaningful opportunities for other stakeholder and First Nations input to BC Hydro's electricity conservation and efficiency programs, and to assist BC Hydro in designing its ongoing approach to creating those opportunities for input; and
- ◆ Providing advice and input with respect to BC Hydro's guiding strategies, principles and individual program concepts.

In addition, the first year objectives of the EC&E Advisory Committee include the following:

- ◆ Improving the design and delivery of BC Hydro's electricity conservation and efficiency programs and initiatives;
- ◆ Modeling and co-creating, on an ongoing basis, new and innovative ways of communicating and engaging with First Nations, communities and stakeholders to increase awareness of the need for electricity conservation and efficiency;
- ◆ Communicating transparently, broadly, and on an ongoing basis the First Nations, community and stakeholder involvement in BC Hydro's planning processes, including how their input influences BC Hydro's business decisions; and
- ◆ Increasing awareness of BC Hydro's electricity conservation and efficiency programs, as well as programs and initiatives outside BC Hydro, that support the broader goal of increased electricity conservation and efficiency.

The ToR provide for the Mandate to be reviewed annually.

EC&E ADVISORY COMMITTEE STRUCTURE

The EC&E Advisory Committee is the formal stakeholder and First Nations body that makes recommendations to BC Hydro with respect to electricity conservation and efficiency. The Committee is chaired by an independent facilitator jointly selected by the EC&E Advisory Committee and BC Hydro, and is supported by a project management team from the BC Hydro Stakeholder Engagement department.

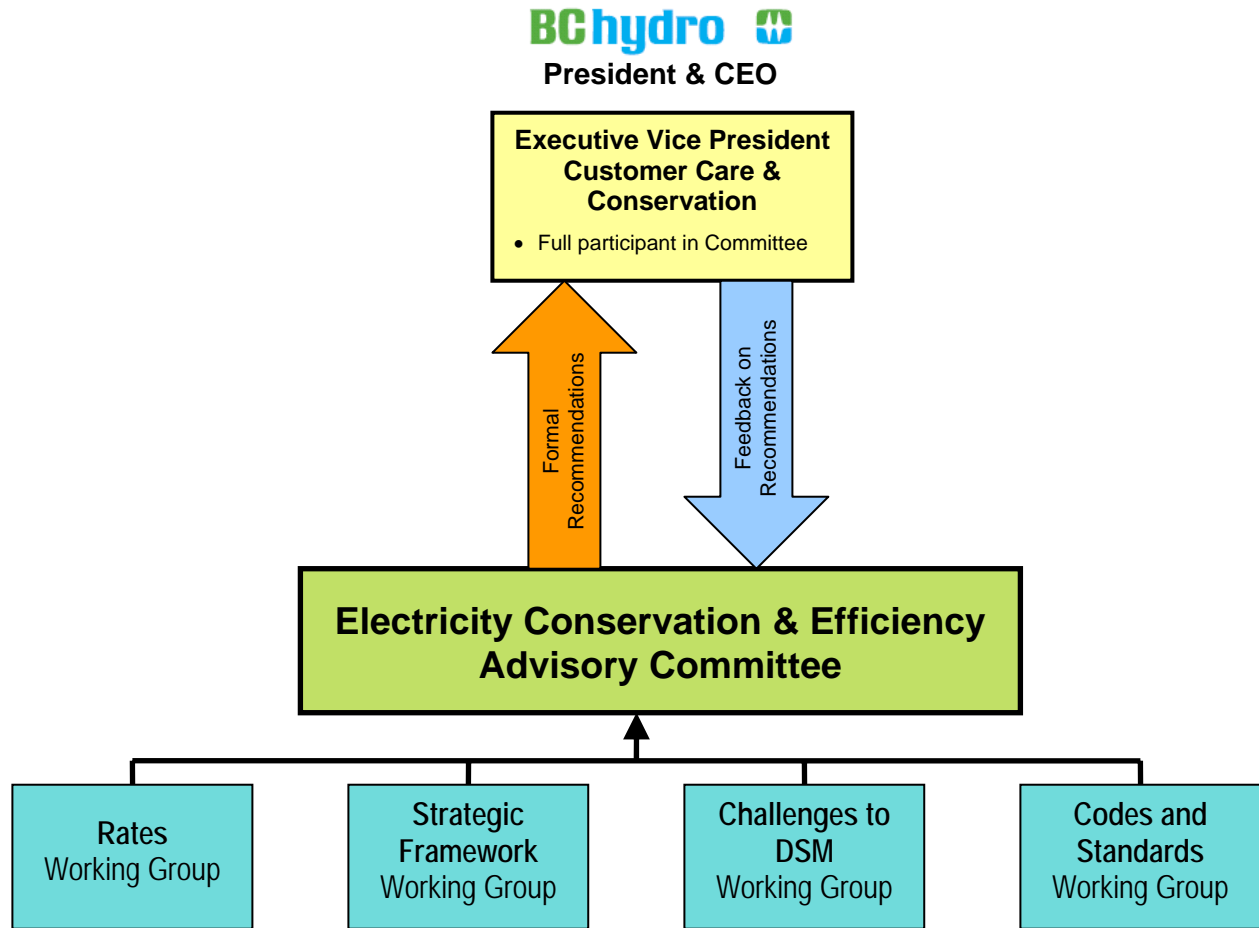
To expedite the completion of specific work priorities identified by the EC&E Advisory Committee, the ToR provide for Working Groups to be established to undertake work between meetings, and to develop information and recommendations for consideration by the Committee as a whole.

As the EC&E Advisory Committee evolved, Working Groups were established to assist the Committee in four key areas:

- ◆ **Strategic Framework Working Group** - to assist the EC&E Advisory Committee to build on BC Hydro's current Strategic Areas of Focus and develop a strategic framework that could be used by BC Hydro to pursue its conservation and efficiency goals;
- ◆ **Challenges to DSM Working Group** - to assist the EC&E Advisory Committee to clearly identify the range of potential barriers to implementing and adopting programs directed at energy/electricity conservation and efficiency measures;
- ◆ **Rates Working Group** - to assist the EC&E Advisory Committee to develop input and advice on how rates can be used as a tool, in conjunction with other measures, to drive both conservation and efficiency and achieve BC Hydro's conservation goal; and
- ◆ **Codes and Standards Working Group** - to assist the EC&E Advisory Committee in identifying how codes and standards can be used to promote energy conservation and efficiency, and develop advice for BC Hydro with respect to BC Hydro's involvement in the design and influence of Codes and Standards.

Given the nature of the work of the Rates Working Group, a decision was made to invite participation by stakeholders who were not members of the EC&E Advisory Committee and to establish formal terms of reference for this Working Group. The terms of reference for the Rates Working Group ToR are attached as Appendix F. The status of work conducted by each of the Working Groups is dealt with later in the Summary of Work section.

Figure 1. Structure of the Advisory Committee and its Working Groups
An overview of the working structure of the Advisory Committee and its relationship to BC Hydro



EC&E ADVISORY COMMITTEE DECISION MAKING

Decisions made by the EC&E Advisory Committee are agreed by consensus. Consensus is defined as no substantive disagreement on an issue/matter. Consensus may include agreement on a document that describes differing points of view. BC Hydro representatives on the Committee do not participate in the determination of consensus on key issues.

Except where expressly stated otherwise, this Annual Report and all matters referred to herein, reflect a consensus of the EC&E Advisory Committee.

EC&E ADVISORY COMMITTEE INPUT TO BC HYDRO

BC Hydro receives input from the Committee in two ways:

- ◆ First, there is ongoing informal feedback as BC Hydro staff both participate in and observe the discussion that takes place during EC&E Advisory Committee meetings and meetings of the various Working Groups. This discussion is highly interactive (both amongst Committee Members themselves and between Committee Members and BC Hydro staff participating on the EC&E Advisory Committee), involves the exchange of a wide variety of perspectives, and often results in a convergence of views and evolved understanding of the issue being discussed. The written meeting summaries from the EC&E Advisory Committee meetings and the meetings of the various Working Groups are circulated within BC Hydro (and are available online on the EC&E Advisory Committee intranet site) so staff other than those in attendance at the meetings can benefit from the discussion as well; and
- ◆ Second, the ToR for the EC&E Advisory Committee provided that the Committee can make formal recommendations to BC Hydro. The EC&E Advisory Committee ToR are explicit that BC Hydro is under no obligation to act on any recommendations from the Committee. However, where the Committee makes a formal recommendation to BC Hydro, the ToR require BC Hydro to advise the Committee if the recommendation will be acted upon and, if not, why not.

SUMMARY OF 2006/2007 WORK

In its first year, the EC&E Advisory Committee met 8 times. In addition, there were a total of 17 Working Group meetings. The dates of these meetings are summarized below.

EC&E Advisory Committee

Meeting 1 - September 19, 2006
Meeting 2 – November 8, 2006
Meeting 3 – January 23, 2007
Meeting 4 – March 29/30, 2007
Meeting 5 – June 7, 2007
Meeting 6 – July 26, 2007
Meeting 7 – September 28, 2007
Meeting 8 – November 23, 2007

Rates Working Group

Meeting 1 – May 2, 2007
Meeting 2 – June 27, 2007
Meeting 3 – July 18, 2007
Meeting 4 – August 29, 2007
Meeting 5 – September 24, 2007
Meeting 6 – October 30, 2007
Meeting 7 - November 16, 2007
Meeting 8 - December 17, 2007

Codes and Standards Working Group

Meeting 1 – April 4, 2007
Meeting 2 – May 10, 2007
Meeting 3 – July 18, 2007

Strategic Framework Working Group

Meeting 1 – March 9, 2007
Meeting 2 – March 20, 2007
Meeting 3 – September 24, 2007

Challenges to DSM Working Group

Meeting 1 – May 2, 2007
Meeting 2 – June 27, 2007
Meeting 3 – July 18, 2007

At the outset, significant time was devoted to building a common knowledge base amongst Committee Members in a number of areas including:

- ◆ Understanding the core business of BC Hydro, including long-term strategies, short-term deliverables and alignment to the 2007 BC Energy Plan;
- ◆ Understanding the business and regulatory context of BC Hydro as a Crown Corporation operating under the authority of the British Columbia Utilities Commission; and
- ◆ Understanding the wide range of perspectives and experience each of the Committee Members brought to the discussions.

As the Committee completed its orientation work, discussion began to focus on five key areas including:

- ◆ The case for conservation and efficiency;
- ◆ Challenges to implementing DSM programs;
- ◆ Developing a strategic framework within which BC Hydro can structure/pursue its DSM programs;
- ◆ Exploring different rate structures that can be used to promote conservation and efficiency; and
- ◆ The role that codes and standards can play in the same regard.

In addition to these five key areas, it became increasingly obvious to the EC&E Advisory Committee that it was important to consider the role that BC Hydro could and should play in relation to energy conservation more broadly.

The work of the EC&E Advisory Committee in each of these areas is described below. For each of those areas where the Committee has made a formal recommendation to BC Hydro (i.e. a strategic framework for BC Hydro to use in pursuing and structuring initiatives to achieve its long term electricity conservation and efficiency goals, and the role that BC Hydro should play in relation to establishing and supporting codes and standards required to achieve those goals), BC Hydro has provided a written response which is attached in Appendix H.

The Case for Conservation and Efficiency

Over the course of its initial year of meetings, the nature of discussion required members of the EC&E Advisory Committee to exchange perspectives on BC Hydro's long term goal and the Provincial Energy Plan target of meeting 50% of future incremental electricity resource needs in British Columbia through conservation and efficiency measures.

There is broad recognition amongst Committee Members that, in societal terms, conservation is becoming increasingly important at multiple levels. More specifically, in the context of electricity, some Committee Members view conservation and efficiency as a cost effective alternative to investment in new infrastructure, some view it as an essential component of addressing a variety of pressing environmental concerns associated with energy consumption and some view it as both. There is strong support among the Committee for BC Hydro's long term goal. While some Committee members have reservations about whether this goal is achievable, others believe it is not sufficiently bold, all strongly support it. The Committee believes the goal should be vigorously pursued through careful, concerted action. In doing this, it will be important that decisions are supported by a clear understanding of the costs and benefits associated with specific conservation or efficiency measures.

In addition, the EC&E Advisory Committee believes the measures undertaken by BC Hydro to successfully achieve its long term conservation and efficiency goal will have a beneficial impact that goes well beyond BC Hydro and positively contributes to a broad range of economic, environmental and social objectives province wide. The range of perspectives by Committee Members in this regard include the following:

- ◆ The activity associated with realizing the full extent of conservation and efficiency opportunities available can become a substantial driver for the B.C. economy, the benefits from capturing the conservation and efficiency opportunities appear to be substantially more cost effective than seeking acquisition of new supply, and the accumulative benefits of both of the foregoing over time can aggregate into significant competitive advantages of lower cost structures for B.C.;
- ◆ The actions that will need to be undertaken to achieve BC Hydro's electricity conservation and efficiency goals will significantly contribute to a broader societal conservation and efficiency ethic that will contribute to maintaining ecological integrity of the environment more broadly; support conservation and efficiency initiatives relative to areas such as natural gas, water, and transportation fuel; assist in building private sector capabilities and capacities to serve and grow a conservation market; and facilitate the identification and implementation of measures that will assist with a reduction in greenhouse gas emissions; and
- ◆ Actions that help maintain ecological integrity and assist with the conservation of natural resources can contribute to preserving the quality of life for First Nations.

Strategic Framework

Concurrent with the creation of the EC&E Advisory Committee, BC Hydro had developed seven strategic areas of focus to guide the development of programs to achieve BC Hydro's long term goal that calls for developing and fostering a conservation culture in B.C. that leads to customers choosing to make dramatic and permanent reductions in electricity intensity. The seven areas of strategic focus included: public attitudes and behaviours, rates and rate structures, codes and standards, Power Smart programs, technology, leading by example and regulatory framework. BC Hydro requested advice from the EC&E Advisory Committee on these areas of strategic focus and, more specifically, what changes might be made to help BC Hydro in achieving its long term efficiency and conservation goals.

The EC&E Advisory Committee thought that while the strategic areas of focus were worthy of pursuit, they may still be inadequate in relation to the long term goal. The Strategic Framework Working Group developed a new strategic framework they feel represents a better way to view the electricity conservation and efficiency challenge and to think about solving it. A copy of the Strategic Framework is included as Appendix E.

The Strategic Framework can best be described as a framework for societal change. It depicts three contexts – individual, market and societal – which influence peoples’ decisions and behaviour, and it presents six factors – options, information, culture, economics, implementation and feedback – that need to be considered in any change strategy.

The three contexts recognize that peoples’ decisions and behaviour are influenced in different ways at different levels. To date BC Hydro has focused at the individual level, and to some extent at the market level. The seven strategic areas of focus have the potential to increase the focus at the market level, but to truly achieve transformative change, as called for in the long term goal, BC Hydro will need to capitalize on the leverage offered by enacting change at the societal and market levels.

This Strategic Framework would help BC Hydro to develop a more comprehensive range of tactics to save electricity. For example: to achieve electricity conservation and efficiency in new homes, BC Hydro would not only implement a Power Smart program to encourage the incorporation of energy efficiency in new homes (individual), but also support the establishment of minimum energy efficiency standards for new homes (market) and a reconsideration of societal expectations around the size of new homes (societal).

Clearly BC Hydro has more direct influence over customer decisions in the individual context than it does in the market and societal contexts. However, the value of evolving into the market and societal contexts is that the market or society itself can produce change at the individual customer level.

To be successful BC Hydro will need to become an advocate or catalyst to lead changes to market parameters or the evolution of social patterns and norms. BC Hydro will need to work with other organizations in partnership to effect this change. It is these partner organizations that will be required to assume the role of implementing direct change; BC Hydro will need to find ways to support and help to facilitate these changes.

While this may seem challenging, the EC&E Advisory Committee believes that BC Hydro is unique in the province in terms of the political, financial and human resources that are at its disposal, and, as such, is well positioned to be an effective agent of change on electricity conservation and efficiency.

The Strategic Framework developed by the Strategic Framework Working Group was reviewed by the EC&E Advisory Committee over a number of meetings and adopted at the September 28, 2007 meeting. The EC&E Advisory Committee has formally recommended that BC Hydro adopt the Strategic Framework. The EC&E Advisory Committee has been advised that BC Hydro is reviewing the Strategic Framework and will respond to the Committee’s recommendation shortly. Moving forward the framework will be used to identify work plan priorities for the EC&E Advisory Committee for 2008.

Challenges to Demand Side Management

In undertaking its work, the EC&E Advisory Committee determined early on it would be helpful to clearly identify the range of potential barriers or challenges that would need to be considered and overcome in order to implement and adopt programs directed at electricity conservation measures. As a result, the EC&E Advisory Committee established the Challenges to DSM Working Group. The results of the Working Group’s deliberations are summarized in a matrix, which is included as Appendix D.

The DSM Challenges Matrix was adopted by the EC&E Advisory Committee at the September 28, 2007 meeting and provided to BC Hydro as a piece of information that may assist in the design and implementation of DSM programs. It is also available to, and being used by, Committee Members as context for discussion on the various other issues they are exploring. In particular, it was used by the Strategic Framework Working Group in developing a recommended Strategic Framework, detailed in the previous section.

The DSM Challenges Matrix considers some of the barriers (awareness, acceptance, availability, affordability and accessibility) to the adoption of energy efficiency, using three contexts that influence peoples’ decisions and

behaviour - individual, market and societal. The individual context refers to the customer, and focuses on the existing DSM approaches used overcome barriers in the marketplace. The market context refers to the economic transaction marketplace. The societal context refers to the community and societal norms which establish the living, working, shopping, educational, recreational and social patterns that can shape the market parameters and individual choices. A copy of the Challenges to the Adoption of Energy Efficiency is included as Appendix D.

Rates

Right from the outset of its discussions, it was recognized by the EC&E Advisory Committee that rates could play a significant role in both conservation and efficiency and with this in mind one of the first Working Groups established was the Rates Working Group. The mandate of this Working Group was to provide input and advice on how rates could be used, in conjunction with other measures, as a tool to drive both conservation and efficiency.

The Rates Working Group first met on May 2, 2007. The initial focus was providing the Working Group with relevant background and context including:

- ◆ The regulatory context within which rates are set;
- ◆ An overview of various rate structures that exist;
- ◆ Updates on the work underway at BC Hydro, around the examination of different rate structures available for conservation and efficiency and the potential impacts and energy savings associated with each; and
- ◆ Information regarding rate re-structuring in other jurisdictions.

The Rates Working Group then turned its attention to an examination of different rate structures that might drive conservation. In doing so, they drafted a Principles Worksheet and Rate Assessment Matrix as tools to assist with this task. As the Working Group was commencing a detailed examination of different rate options, it was advised at its July 2007 meeting that BC Hydro wished to establish an initial conservation rate as an interim step, and was contemplating using an Inclining Block Rate. The Working Group was requested by BC Hydro to provide advice on the suitability of an Inclining Block Rate as an initial conservation rate, whether there were other rates the Committee believed would be more effective as an initial conservation rates, and, if an Inclining Block Rate was in fact the one used by BC Hydro as its initial conservation rate, design specifics of such a rate that would increase its effectiveness in terms of conservation.

Upon receiving this request, the Rates Working Group tabled further work on its detailed examination of the different rate structures available to drive conservation and efficiency. The Rates Working Group identified seven different rate structures potentially available as an initial conservation rate, including the Inclining Block Rate being considered by BC Hydro, and prepared a preliminary summary of some of the advantages and disadvantages of each. On the basis of the work of the Rates Working Group, the EC&E Advisory Committee was tending towards the following conclusions:

- ◆ In principle, the EC&E Advisory Committee supports BC Hydro moving quickly to establish an initial conservation/efficiency based rate for residential customers. In establishing its first rate, intended to promote electricity conservation and efficiency, it would be important that, amongst other things, the rate be one that demonstrates that BC Hydro is committed to using rates as one tool to drive the electricity conservation and efficiency goals in the BC Energy Plan, delivers an effective pricing signal to a broad range of customers (e.g. results in meaningful conservation gains), provides the foundation for a more comprehensive approach over time and is supported by a technically sound rationale;
- ◆ An Inclining Block Rate may not be the most effective conservation and efficiency rates available to BC Hydro to use as its initial conservation rate. Reasons for this include: concerns that an Inclining Block Rate may not send an effective price signal relative to conservation or efficiency, a significant portion of the customer base may be unaffected, it potentially has significant fairness issues associated with it (e.g. it is insensitive to the number of persons living in a residence, it will have a significant impact on those who have chosen to use electricity to heat their homes and, in particular, tenants in residential properties who have no control over the

heat source used), it does not as easily link or integrate with other non-rate initiatives developed under the Strategic Framework recommended by the EC&E Advisory Committee, and there is no empirical evidence that an Inclining Block Rate will have any effect in relation to electricity conservation or efficiency other than just the elasticity response of the customers to price;

- ◆ A rate structure based on a Flat Rate with Dividend may be more effective as an initial conservation rate. At its simplest, this rate structure would involve setting a price significantly higher than the current price for residential customers (e.g. at the marginal cost of supply) but then providing customers the ability to earn a ‘dividend’ or ‘rebate’ based on them taking any one of a number of defined conservation or efficiency measures. Initially the rate could be set at the full marginal cost of electricity (thereby delivering a strong price signal) and the dividend or rebate set at a level such that the net rate paid by all residential customers would equal their current rate. In other words, at the outset the bill would be neutral; however, as time went on customers would need to take action to continue to see bill neutrality. As various conservation and efficiency programs are developed under the Strategic Framework, a customer’s ability to access the rebate, and the size of the rebate, could be linked to the customer undertaking such conservation and efficiency measures. Initially the dividend or rebate could be paid at the time of each bill. However, in future years, it the dividend or rebate could be paid less frequently (e.g. semi-annually or annually) with the objective of re-enforcing the pricing signal;
- ◆ A Flat Rate with Dividend may be more effective than an Inclining Block Rate because, amongst other things, it will deliver a significant price signal to all customers right from the outset (vs. only those in the second block), there is the ability to use the quantum and timing of the dividend to phase in any net impacts on customers over time (i.e. initially structuring the initial dividend in a manner that results in no immediate net impact on customers bills), it respects customers need to adapt by providing forewarning of what will likely be happening in the future (this goes to fairness and helps to alleviate the impact any rate shock), it provides an opportunity to develop effective efficiency and conservation programs/mechanisms under the Strategic Framework recommended by the EC&E Advisory Committee that can be linked to the dividend/rebate, and it will not have the same fairness issues associated with it as an Inclining Block Rate;
- ◆ While the EC&E Advisory Committee believes an Inclining Block Rate may not be the most effective rate to use as an initial conservation rate, if BC Hydro makes a decision to proceed with it, from a design perspective, it should have two steps namely an initial step with a low threshold (with the objective of providing a price signal, albeit a small one, to a large number of customers) and a second step with a relatively high threshold (one that would impact a small number of very high residential users only). This second step should be carefully designed so that it incents those impacted to become more efficient and should be accompanied by information and programs or mechanisms that permit those impacted to take steps to decrease the financial burden associated with it. Ideally, any such Inclining Block Rate would be structured as a pilot that has a sunset provision so that it is not locked in as the primary rate structure to be used by BC Hydro to encourage conservation and efficiency; and
- ◆ Notwithstanding all of the above, greater analysis and due diligence regarding both rate structures is required prior to any final decision being made on the best rate to use as an initial conservation rate.

The EC&E Advisory Committee was intending to finalize recommendations on an initial conservation rate at the Committee’s November 23, 2007 meeting. However, before this could happen, the BC Utilities Commission (BCUC) released its decision on the 2007 Rate Design Application (RDA) that included a determination for BC Hydro to initiate a Residential Inclining Block Rate by April 2008. The Committee discussed the implications of RDA decision on their work on rates, its recommendations in progress in relation to the best rate structure to use as an initial conservation rate and how best to move forward in the circumstances. Concern was expressed by some that the BCUC made the determination in relation to the Inclining Block Rates without any apparent evidence on the record in this regard or any apparent consideration of the different rate options available in relation to conservation and efficiency. While the EC&E Advisory Committee remains of the view that an Inclining Block Rate may not be the most effective approach as BC Hydro’s initial conservation rate, it decided the best course of

action in the circumstances was to document its emerging conclusions on an initial conservation rate and its work in progress in relation to the Flat Rate with Dividend to BC Hydro as a piece of information, finalize its advice on design elements for an Inclining Block Rate at its January meeting, and direct the Rates Working Group to focus its future efforts on its core mandate of developing comprehensive recommendations on the best long term rate structure for the purposes of electricity conservation and efficiency including:

- ◆ The role rates can play in relation to conservation/efficiency;
- ◆ Linkages to other measures;
- ◆ The potential conservation/efficiency gains associated with each rate; and
- ◆ The extent to which each potential rate structure is consistent with the rate design principles BC Hydro operates under.

For reasons explained above, the EC&E Advisory Committee has not yet made any formal recommendations to BC Hydro in relation to rates, but has provided BC Hydro with the work it had completed in relation to the recommendations on an initial conservation rate prior to the BCUC Rates Design Application decision.

Codes and Standards

Codes and standards were recognized from the outset as one of the central tools available to promote conservation and efficiency measures. For the purposes of its work, the EC&E Advisory Committee understands codes and standards as a term that refers to a variety of public policy instruments available to require or influence a variety of actions that would support conservation and efficiency measures; this includes both mechanisms that are technically a code or standard (e.g. building codes) and other measures such as taxes and municipal building permitting rules. Based on work of the Codes and Standards Working Group, the Committee concluded that it needed to focus its preliminary work on codes and standards around three topics:

- ◆ How to understand codes and standards within the context of the Strategic Framework developed by the EC&E Advisory Committee (described above and attached as Appendix E);
- ◆ What is the appropriate role for BC Hydro to play in relation to codes and standards (vs. the role that should be played by other organizations and institutions); and
- ◆ Are there specific changes to codes and standards that should be pursued to support the conservation and efficiency objectives of BC Hydro and the goal of addressing 50 per cent future incremental electricity resource needs through conservation and efficiency measures?

Within the context of its recommended Strategic Framework, the EC&E Advisory Committee is of the view that codes and standards are primarily a tool for addressing issues in the market category in that they establish rules for, or influence the decisions of, market players. Having said this, the EC&E Advisory Committee recognizes that codes and standards can also potentially influence at the individual or society levels if designed as such.

There are a number of different ways BC Hydro can assist in the development of codes and standards that are effective in achieving energy savings, and BC Hydro is well positioned to research and communicate those opportunities. Furthermore, BC Hydro can build on and increase its historic role with respect to energy efficiency codes and standards by advocating and supporting those which are most stringent, and simultaneously cost-effective and feasible for B.C.

BC Hydro can also affect changes to codes and standards in a number of ways:

- ◆ It can support the building of coalitions that will address market transformation through codes and standards;
- ◆ It can join the Committee that will oversee the development of a new Model National Energy Code for Buildings, and support the Canadian Standards Association with both financial and technical contributions; and
- ◆ It can also help to build public support through education and identification of best practices. In order to prioritize its efforts, BC Hydro should estimate current electricity consumption and potential energy savings of each item in its list of proposed changes to codes and standards.

BC Hydro's Role with Respect to Electricity Conservation and Efficiency

Over the course of the EC&E Advisory Committee's discussion of conservation and efficiency measures, it has become increasingly clear that to be successful in achieving its conservation and efficiency goals, BC Hydro cannot work alone. The successful implementation of many aspects of the Strategic Framework recommended by the EC&E Advisory Committee, and in particular those aspects that address the market and societal context, will require actions by others, in particular governments. Further, there are many aspects of energy conservation and efficiency more broadly (e.g. implementing the Energy Plan) that would likely benefit from some of the measures being discussed at the EC&E Advisory Committee, including a broader application of the approach outlined in the Strategic Framework. BC Hydro needs to create awareness of this both within governments and the business community generally and to play a leadership role in both encouraging and supporting required discussions (i.e. initiatives, forums, structured engagements etc). The EC&E Advisory Committee is prepared to participate in, or contribute to, such discussions as appropriate.

LOOKING TO THE FUTURE

Advisory Committee Planning for 2008 and Beyond

The EC&E Advisory Committee has finalized a work plan for 2008 based on its recommended Strategic Framework. This work plan includes as its principle objectives, the following:

- ◆ Advocating for the commitment of additional resources required to effectively engage in the activities required to implement those aspects of the Strategic Framework either within the control of BC Hydro or that BC Hydro has the ability to significantly influence;
- ◆ Shifting from high level discussion on principles to more detailed input into both key BC Hydro strategies (e.g. Conservation Rates) and programs (e.g. Power Smart programs) associated with electricity conservation and efficiency; and
- ◆ Inviting BC Hydro to engage the province in a discussion directed at broadening the discussion from one on electricity conservation and efficiency issues to an overall consideration of energy conservation which may require either a change in mandate of the EC&E Advisory Committee or a structured engagement at a broader level outside of the Committee.

Suggestions for BC Hydro for Future Stakeholder Processes

Based on its experience to date, advice from the EC&E Advisory Committee to BC Hydro in relation to future stakeholder processes includes the following:

- ◆ Seek broad, diverse input & representation;
- ◆ Ensure ample time to review materials in advance of meetings;
- ◆ Create more opportunities for dialogue between Committee Members and have less of a focus on providing information;
- ◆ Be flexible to the needs of those participating: consider time and travel;

- ◆ Ensure communication is at a common level and presentation materials are available as hard copies at each meeting;
- ◆ Share as much information as possible;
- ◆ Be upfront: clearly state objectives & expectations at the outset, and report on decisions made; and
- ◆ Periodically revisit the issue of committee effectiveness – is it a good use of time by those participating and is BC Hydro receiving value for the resources expended.

Acknowledgements

The Electricity Conservation and Efficiency Advisory Committee gratefully acknowledges the following people for their contributions:

Daniel Johnston, for his dedicated and skilful facilitation and guidance of this multi-interest committee; his involvement provided opportunities for all parties to find common values among many diverse perspectives.

Dan Green and Chris Frye of MEMPR, for presenting essential information on the BC Energy Plan and their instrumental role in setting the context for the work of the Committee.

Bob Elton, BC Hydro's President and CEO, for pledging BC Hydro's support of the Committee, and championing innovation in electricity conservation and efficiency.

Murray Bond, for liaising between the Committee and the Conservation Potential Review External Review Panel.

Allan Chung, Fred James, David Keir, Pat Mathot, Jim Nelson, Karen Poole, Jennifer Ryan, Parminder Sandhu, Hugo Shaw, Joanna Sofield, Carmelina Sorace, Ken Tiedemann, John Vanderspyker, Sylvia von Minden and Brigitte Zacharias for presenting valuable information to aid the Committee in their understanding of specific subject areas.

BC Hydro's Engagement Project Team for their tireless efforts in planning, coordination and communication, in particular Tennille Wong who consistently demonstrated her commitment to providing an exceptional engagement forum.

APPENDIX A

Glossary of Terms

2007 BC Energy Plan

A statement of BC Government policy related to provincial energy matters issued by the Ministry of Energy, Mines and Petroleum Resources in February 2007.

British Columbia Utilities Commission (BCUC)

An independent regulatory agency of the provincial government operating under and administering the *Utilities Commission Act*. Its responsibility is to regulate the public utilities under its jurisdiction, and to ensure customers receive safe, reliable service and non-discriminatory, reasonable rates.

Demand Side Management (DSM)

Actions that modify customer demand for electricity, helping defer the need for new energy and capacity supply additions.

First Nation

Either an Aboriginal governing body, organized and established by an Aboriginal community, or the Aboriginal community itself.

Gigawatt hour (GWh)

One billion watt hours; one million kilowatt hours. An amount of electric energy that will serve about 100 residential customers for one year.

Hydroelectricity

Electricity produced by harnessing the power of falling water or streamflow.

Integrated Electricity Plan (IEP)

The process of long-term planning of electricity generation, transmission facilities and demand-side resources to reliably meet forecast requirements.

Kilowatt (kW)

One thousand watts; the commercial unit of measurement of electric power. A kilowatt is the flow of electricity required to light 10 100-watt light bulbs.

Kilowatt Hour (kWh)

One thousand watts used for a period of one hour; the basic unit of measurement of electric energy. On average, residential customers in B.C. use about 10,000 kWh per year.

Megawatt (MW)

One million watts; one thousand kilowatts. A unit commonly used to measure both the capacity of generating stations and the rate at which energy can be delivered.

Power Smart

BC Hydro's Demand Side Management (DSM) initiative to encourage energy efficiency by its customers. Launched in 1989, Power Smart includes a full range of DSM programs aimed at BC Hydro's residential, commercial and industrial customers.

Stepped Rate

A rate structure for transmission class customers, prescribed by the 2002 BC Energy Plan, that uses different price levels to incent efficiency investments so incremental consumption will be priced at incremental cost.

Stakeholder

Individuals, groups or representatives of groups who have an interest in BC Hydro's activities. Municipal governments, environmental organizations and employees are a few examples of BC Hydro's stakeholder groups.

APPENDIX B

Electricity Conservation and Efficiency Advisory Committee Membership:

Brenda Binnie	President, UBCM; Councillor, City of Castlegar
Chelsea Burns	Student, UBC Arts & Science
John Cockburn	Chief Standards & Labelling, Natural Resources Canada
Lisa Coltart	BC Hydro, Director, Power Smart
David Craig	President, Consolidated Mgmt Consultants
Barbara Docherty	Independent Power Producers Association of BC (IPPBC)
Dennis Fitzgerald	Catalyst Paper
Fred Fortier	North Thompson Indian Band
Tom Hackney	Sierra Club of Canada - BC Chapter
Steve Hobson	BC Hydro, Manager, Power Smart
Matt Horne	Pembina Institute for Appropriate Development
Michelle Larstone	Independent
Daniel Johnston (Facilitator)	Hope Johnston and Associates
Art McDonald	School Plant Officials Association of BC
John Newcomb	Independent
Dan Potts	Joint Industry Electricity Steering Committee (JIESC)
John Robinson	University of British Columbia
Andrew Pape-Salmon	Min. of Energy, Mines and Petroleum Resources (MEMPR)
Nic Rivers	Simon Fraser University
Dan Smith	Hamatla Treaty Society
Sarah Smith	Manager, Marketing and Energy Efficiency, Terasen Gas
Douglas Spratt	Building Owners and Managers Assoc of BC (BOMA-BC)
Michelle Taschereau	Brite-Lite Vancouver Inc.
Bev Van Ruyven	BC Hydro, Senior VP, Customer Care and Conservation
Robert Wickson	BC Chamber of Commerce
Doug Wittal	Canadian Home Builders Association
Chandra Wong	Independent

Rates Working Group Membership:

Ludo Bertsch	Energy Solutions Vancouver Island Society
John Cockburn	Chief Standards & Labelling, Natural Resources Canada
David Craig	President, Consolidated Mgmt Consultants
Dennis Fitzgerald	Catalyst Paper
Iris A. Frank	Ucluelet First Nation
Tom Hackney	Sierra Club of Canada - BC Chapter
Daniel Johnston (Facilitator)	Hope Johnston and Associates
Sue Kent	Independent
John Newcomb	Independent
David Perttula	Market Development & Analysis Mgr, Terasen Gas
Dan Potts	Joint Industry Electricity Steering Committee (JIESC)
Jim Quail	Public Interest Advocacy Group
Nic Rivers	Simon Fraser University
Dan Smith	Hamatla Treaty Society
Michelle Taschereau	Brite-Lite Vancouver Inc.
Robert Wickson	BC Chamber of Commerce

Challenges to Demand Side Management Working Group Membership:

Dennis Fitzgerald	Catalyst Paper
Tom Hackney	Sierra Club of Canada - BC Chapter
John Newcomb	Independent
Sarah Smith	Manager, Marketing and Energy Efficiency, Terasen Gas

Strategic Framework Working Group Membership:

David Craig	President, Consolidated Mgmt Consultants
Tom Hackney	Sierra Club of Canada - BC Chapter
Matt Horne	Pembina Institute for Appropriate Development
Art McDonald	School Plant Officials Association of BC
John Robinson	University of British Columbia
Chandra Wong	Independent

Codes and Standards Working Group Membership:

Matt Horne	Pembina Institute for Appropriate Development
Andrew Pape-Salmon	Min. of Energy, Mines and Petroleum Resources (MEMPR)
Douglas Spratt	Building Owners and Managers Assoc of BC (BOMA-BC)
Doug Wittal	Canadian Home Builders Association

BC Hydro Project Team:

Cindy Verschoor	Manager, Stakeholder Engagement Manager
Tennille Wong	Coordinator, Stakeholder Engagement
Shannon Shackerley-Bennett	Advisor, Stakeholder Engagement
Jennifer Hrankowski	Event & Logistics Coordinator, Stakeholder Engagement
Allison Wong	Event & Logistics Coordinator, Stakeholder Engagement
Murray Bond	Technical Liaison, Manager, DSM Evaluation
John Duffy	Strategy & Policy Liaison, Manager, Strategy Resources Plan

APPENDIX C

Electricity Conservation & Efficiency Advisory Committee Terms of Reference

This document was confirmed as final at the November 8th, 2006 meeting of the EC&E Advisory Committee.

INTRODUCTION

BC Hydro is committed to mutually beneficial, respectful, and transparent engagement with First Nations, British Columbia communities and stakeholders. The purpose of this Terms of Reference (ToR) is to ensure that the members of BC Hydro's Electricity Conservation & Efficiency Advisory Committee have a clear understanding of the EC&E Advisory Committee's objectives and what is expected of Advisory Committee Members. These ToR are intended to provide assurance that First Nations, community and stakeholder values will be integrated into BC Hydro's electricity conservation planning and implementation, and to support the smooth functioning of the Advisory Committee.

Context

1. The Provincial Energy Plan provides a vision to support energy efficiency, to reduce energy costs, support energy security, provide more private sector opportunities, and promote environmental responsibility. The Provincial Energy Plan is supported by Energy Efficient Buildings: A Plan for B.C. The energy efficiency actions contained within this plan seek to deliver social, environmental, and economic benefits throughout B.C. by conserving energy and improving the energy efficiency of homes and buildings.
2. The Provincial Energy Plan is the BC Hydro road map – BC Hydro must execute and implement all policies in the Plan.
3. The British Columbia Utilities Commission is a regulatory agency of the Provincial Government, operating under, and administering, the Utilities Commission Act ("UCA"). The Commission's mission is to ensure that ratepayers receive safe, reliable, and non-discriminatory energy services at fair rates from the utilities it regulates, and that shareholders of those utilities are afforded a reasonable opportunity to earn a fair return on their invested capital.
4. BC Hydro agreed to establish a public committee to provide advice and input into Demand Side Management (electricity conservation and efficiency) as a result of the 2005 Resource and Expenditures Acquisition Plan (REAP) Negotiated Settlement Process (NSP).
5. In March 2006 BC Hydro presented its 2006 Integrated Electricity Plan (IEP) to the BC Utilities Commission. The 2006 IEP provided an analysis of challenges and choices fundamental to securing British Columbia's electricity future by looking at three critical questions:
 - a) what are the resources BC Hydro will need to meet British Columbians' electricity demands;
 - b) how much of them will BC Hydro need; and
 - c) when will BC Hydro need them?
6. BC Hydro's current load forecast indicates that BC's electricity requirements will grow between 25 and 45 percent over the next 20 years. As part of its responsibility to ensure the province's electricity supply needs for the future are met, BC Hydro is looking at a variety of options to fill our future needs and the supply the emerging gap that is emerging ahead. Filling the emerging electricity gap will be met in three fundamental ways: conserving more, buying more from independent power producers and building more.

7. For a number of reasons BC Hydro believes that the first and best choice for managing the future supply gap that has been identified is conserving electricity. Central to this is helping customers (industrial, commercial, residential) become more efficient and wise in their use of electricity. BC Hydro believes that the development and implementation of its initiatives to assist customers with electricity conservation are likely to be more effective if they are informed by input from First Nations, British Columbia communities, and stakeholders. BC Hydro further believes such input is best achieved through the establishment of a formal advisory committee that can work with BC Hydro on an ongoing basis.

EC&E Advisory Committee Objectives

8. The objectives of the Electricity Conservation & Efficiency Advisory Committee include the following:
 - a) To improve the design and delivery of BC Hydro's electricity conservation and efficiency programs and initiatives. It is anticipated that this objective will be accomplished by learning from First Nations, communities and stakeholders through gathering advice and input to inform, innovate and challenge BC Hydro's ideas about, and delivery of, electricity conservation and efficiency initiatives;
 - b) To model and co-create, on an ongoing basis, new and innovative ways of communicating and engaging with First Nations, communities and stakeholders to increase awareness of electricity conservation and efficiency. It is anticipated that this objective will be accomplished by creating opportunities for advice and input that are meaningful from the perspectives of participating First Nations, communities and stakeholders;
 - c) To communicate transparently and broadly, on an ongoing basis, about the First Nations, community and stakeholder involvement in BC Hydro's planning processes, including how their input influences BC Hydro's business decisions; and
 - d) To help increase awareness of BC Hydro's electricity conservation and efficiency programs as well as programs and initiatives outside of BC Hydro that support the broader goal of increased electricity conservation and efficiency.

MANDATE

9. The proposed mandate of the Committee was used as a starting point for discussion with the Advisory Committee Members at the inaugural meeting on September 19, 2006. The Advisory Committee's mandate was determined jointly by BC Hydro and the Committee at that time.
10. The mandate for the first year of the Committee's operation is:
 - a) To provide advice, input, and generate innovative concepts and approaches to support the development of BC Hydro's Demand Side Management Plan including guiding strategies, principles, and individual program concepts.
 - b) To provide a forum for identifying and responding to key issues associated with Demand Side Management including institutional issues that go beyond BC Hydro. In developing recommendations, the Advisory Committee shall do so in a manner that recognizes BC Hydro operates within a context of provincial energy policy, the regulatory mandate of the British Columbia Utilities Commission, international treaties, customer expectations, unresolved Aboriginal land claims, environmental issues and business and other requirements.
 - c) To provide advice on how to structure meaningful opportunities for other stakeholder and First Nations input on BC Hydro's electricity conservation and efficiency programs, and to assist BC Hydro in designing its ongoing approach to creating those opportunities for input.

11. Input and advice from the Advisory Committee to BC Hydro will be recorded in the meeting notes and in the Annual Consultative Report.
12. The Advisory Committee shall also be responsible for working with the Facilitator to prepare and submit to BC Hydro, on or before September, 30 of each year, an Annual Consultative Report as outlined in section 38.
13. On or before December, 31 of each year, BC Hydro and the Advisory Committee shall review the Mandate and determine if there are changes to the Mandate that both parties believe would be beneficial for the ensuing year.
14. While the role of the Advisory Committee is purely “advisory” (i.e. the committee has no authority to make decisions that are binding on BC Hydro):
 - a) BC Hydro will work with the Advisory Committee to ensure that the interests and concerns in relation to energy conservation and efficiency identified by the Committee are clearly understood and considered in the design and implementation of electricity conservation and efficiency programs;
 - b) For each recommendation made by the Advisory Committee, BC Hydro will advise the Committee how it deals with that recommendation (i.e. if the recommendation is accepted in whole, in part, or with modifications, and the specific steps taken by BC Hydro on the basis of that recommendation); and
 - c) Where the BC Hydro decides not to act on part or all of a recommendation, or decides to modify a recommendation, it shall provide the Committee with a rationale for its decision.

DECISION-MAKING

15. The Advisory Committee shall function as a consensus based Committee:
 - a) Consensus shall be defined as no substantial disagreement on an issue/matter by any member of the Advisory Committee; however
 - b) Consensus may include agreement on a document that describes different points of view on an issue/matter;
 - c) Consensus shall be determined by the Facilitator asking if any Advisory Committee member substantially disagrees with a proposed decision or recommendation on a matter; and
 - d) BC Hydro representatives appointed to the Advisory Committee shall not participate in any determination of whether a consensus exists on a proposed recommendation in relation to a substantive issue/matter related to the Mandate.
16. All recommendations in relation to substantive issues/matters related to the Mandate, including periodic revisions to these Terms of Reference shall be made by consensus.
17. In the event of an impasse in relation to a substantive issue/matter:
 - a) the facilitator shall assist Advisory Committee members in identifying a mutually acceptable resolution to the impasse using interest based approaches/techniques the Facilitator considers most appropriate in the circumstances – these may include:
 - i) Assisting Advisory Committee Members to clearly define the issue(s) and areas of disagreement;
 - ii) Assisting Advisory Committee Members to identify their interests with respect to the subject under discussion;
 - iii) Utilizing brainstorming sessions and other techniques determined appropriate by the Facilitator to identify options that can address the interests identified;
 - iv) Assisting the Advisory Committee Members to develop criteria for evaluating options, where appropriate; and
 - v) Facilitating the evaluation of options and the selection of the preferred option.

- b) If the impasse remains, the Facilitator shall record the specific issue in dispute and the differing views with respect to that issue (without attribution to individual Members unless they ask to be specifically identified).
18. The Advisory Committee shall strive to deal with all administrative and procedural issues/matters by consensus.
19. In the event of an impasse in relation to a substantive administrative and procedural issue/matter:
- a) The facilitator will make a specific recommendation to the Advisory Committee on how the issue/matter should be dealt with from a best practices perspective; and
 - b) If the impasse remains, the issue will be dealt with in a manner determined most appropriate by the facilitator.

ADVISORY COMMITTEE STRUCTURE

Members

20. The Advisory Committee shall consist of:
- a) 23 individuals drawn from Academia, First Nations, Residential, Commercial, Institutional and Industrial Customers, Local and Provincial Governments, Non-Governmental Organizations, Independent Power Producers; Residential and Commercial Trade Allies, and Utilities; the Federal Government and
 - b) 3 representatives of BC Hydro.
21. All decisions on membership, including reappointments, new appointments, and term of appointments shall be made by BC Hydro.
22. The initial membership of the Advisory Committee shall be as listed in Appendix 1 (the (“Initial Appointments”).
23. The term of all Initial Appointments shall be; and
- a) one year effective as of September 1st, 2006; plus either
 - b) an additional one or two years determined on a lottery basis.
24. Upon the expiry of the Initial Appointments:
- a) BC Hydro shall consider reappointments and determine new appointments in a manner that draws a balance between continuity of committee membership and creating opportunities for new members; and
 - b) The term of all reappointments and new appointments shall be two years.
25. BC Hydro may cancel membership of an individual at any time on the basis of poor attendance or failure to conduct oneself in accordance with section 28.
26. There shall be no provision for alternate members.

Working Groups

27. To expedite the completion of tasks identified by the Advisory Committee, working groups, including technical sub-groups, may be established to undertake tasks between Committee meetings.
28. Subject to the following, the membership, mandate, structure, and any rules of procedure shall be as determined appropriate by the Advisory Committee:

- a) working groups shall be open to all Advisory Committee Members, who will be notified in advance of any meeting;
- b) schedule meetings to optimize opportunities for attendance by interested Advisory Committee members;
- c) offer opportunity for input from members who cannot make a scheduled meeting;
- d) working groups may include non- Advisory Committee members, such as technical or scientific experts, as appropriate;
- e) working groups may include a decision analyst and/or the Advisory Committee facilitator as required;
- f) working groups may prepare options and/or recommendations for consideration by the Advisory Committee;
- g) working groups shall be advisory in nature only and shall not be binding on BC Hydro or the Advisory Committee – all of their work shall be provided to the Advisory Committee as recommendations or input.

Observers and Guests

- 29. Upon request, and where agreed to by the Advisory Committee, First Nations representatives, community representatives, and other stakeholders may attend selected meetings as observers (“Observers”):
 - a) The dates of meetings open to Observers will be established by the Advisory Committee and made available in advance;
 - b) Observers will not sit at the main table;
 - c) Except where requested and/or agreed to by the Advisory Committee, Observers will not make presentations or participate in discussion; and
 - d) Observers will not participate in any decision making.
- 30. Where determined appropriate, the Advisory Committee may invite experts or other individuals to attend meetings to provide technical presentations or respond to questions on a subject relevant to the considerations of the Committee (“Guests”) – Guests will not participate in decision-making

ANNUAL WORK PLAN

- 31. On or before December 31st of each year, BC Hydro and the Committee shall develop a mutually acceptable work plan for the following year. This work plan shall:
 - a) Identify the key tasks to be undertaken by the Committee for the upcoming year, required actions, information and sequence of steps to undertake those tasks and assignment of responsibility for each of those steps; and
 - b) Establish a meeting schedule for the year.

RESPONSIBILITIES OF MEMBERS

32. Advisory Committee members are expected to:

- a) conduct themselves and discuss issues in a manner that is constructive, interest based, and respectful of others;
- b) strive for consensus;
- c) attend and actively participate in all meetings;
- d) review all provided materials in advance of meetings;
- e) review draft notes of each meeting they participate in and suggest any modifications or additions they deem necessary to ensure the accuracy of the notes;
- f) acquaint themselves with the discussion and outcomes at any meetings they are unable to attend;
- g) keep their constituents informed on progress of the Advisory Committee; and
- h) work with the Advisory Committee facilitator to ensure the Electricity Conservation & Efficiency Advisory Committee Annual Consultative Report is an accurate representation of the Advisory Committee Members' experience and views so that they can sign off on the report.

PROCESS MANAGEMENT

Facilitator

33. BC Hydro shall engage the services of an independent Facilitator mutually acceptable to the Committee.

34. The Facilitator shall be responsible for:

- a) aiding the Advisory Committee in achieving its Mandate;
- b) ensuring that all parties are heard and assisting parties in resolving differences in a manner that is fair and without unnecessary delay or expense;
- c) ensuring all discussions take place in a manner consistent with Section 30(a);
- d) being and remaining impartial, according equal attention and courtesy to all persons involved;
- e) facilitating all meetings of the Advisory Committee and, upon request, facilitating any sub-groups or working groups;
- f) working with the BC Hydro Project Team and Advisory Committee members to create an agenda for each meeting;
- g) working with BC Hydro Project Team to ensure the draft meeting notes accurately reflect the Advisory Committee's discussions and decisions when they are distributed to the Advisory Committee members for review; and
- h) working with the Advisory Committee members to produce the Electricity Conservation & Efficiency Annual Consultative Report for review and sign off by Advisory Committee Members.

BC Hydro Project Team

35. BC Hydro shall establish a Project Team to support the work of the Advisory Committee.
36. The Project Team shall be responsible for:
- a) Providing relevant background material to Advisory Committee members, for their review and consideration, in advance of each meeting;
 - b) Seeking input from Advisory Committee members on the tasks and activities identified in BC Hydro's 20-Year DSM Plan and targets;
 - c) Reviewing the Advisory Committee's recommendations;
 - d) Providing a rationale for how each recommendation provided by the Advisory Committee has been addressed (i.e. if the recommendation is accepted in whole, in part, or with modifications, and the specific steps taken by BC Hydro on the basis of that recommendation);
 - e) Incorporating recommendations received by the Advisory Committee into BC Hydro's current DSM planning process and or plans where appropriate as determined above;
 - f) Coordinating all communications on Advisory Committee activities to internal and external audiences;
 - g) Providing all logistics support to the Advisory Committee as necessary.

Stakeholder Engagement Advisor

37. BC Hydro shall designate a Stakeholder Engagement Advisor who will be the primary contact person for all Advisory Committee Members.
38. The Stakeholder Engagement Advisor shall be responsible for:
- a) arranging for facilitation services;
 - b) preparing and distributing materials for the Advisory Committee meetings;
 - c) arranging the logistics of all meetings;
 - d) preparing and distributing meeting notes of Advisory Committee meetings or any working groups, workshops or other meetings; (Meeting notes are expected to summarize discussions and record agreements, decisions, and any areas of disagreements. All such draft notes will be distributed directly to each Advisory Committee Member for review and comment.);
 - e) assisting with preparation and presentation of the Electricity Conservation & Efficiency Annual Consultative Report;
 - f) administering participant resources;
 - g) developing and maintaining communication links with interested parties;
 - h) maintaining a database of interested parties who are to receive newsletters and other materials about the Electricity Conservation and Efficiency Advisory Committee;
 - i) producing and issuing all communications materials about the Electricity Conservation and Efficiency Advisory Committee; and
 - j) ensuring that all draft newsletters and other public or communications materials about the Advisory Committee are reviewed with the Advisory Committee before issuing them.

MEETINGS

39. Meetings of the Advisory Committee shall be conducted in accordance with an agenda approved by the Committee at the outset of the meeting – to expedite this, the Facilitator shall distribute in advance of each meeting a draft/proposed agenda based on the Work Plan, discussion/direction at the prior Advisory Committee meeting, and input from the BC Hydro Project Team
40. Except where otherwise agreed by the Advisory Committee, meetings shall be attended only by Members, Observers, Guests, and the BC Hydro Project Team.
41. Meetings of the Advisory Committee shall be recorded in meeting summaries that briefly summarize the matters discussed and any recommendations made. Unless specifically requested by them, meeting summaries shall not attribute specific points of view to individual Members.

ANNUAL CONSULTATIVE REPORT

42. The Advisory Committee shall work with the Advisory Committee facilitator to prepare and sign off on an annual consultative report documenting:
 - a) the overall Advisory Committee process, including the Advisory Committee's mandate, objectives and operations;
 - b) electricity conservation and efficiency alternatives and/or innovations reviewed and considered;
 - c) evaluation of those alternatives/and/or innovations;
 - d) areas of agreement and disagreement;
 - e) Advisory Committee members' assessment of the effectiveness of the Advisory Committee in influencing the design and implementation of electricity conservation and efficiency programs;
 - f) Advisory Committee members' assessment of their experience as members and how well the interests of their organizations were addressed;
 - g) suggestions or recommendations to BC Hydro on appropriate changes to any similar future stakeholder involvement processes; and
 - h) other aspects of the process the Advisory Committee wishes to address.

PUBLIC COMMUNICATION

43. The following will be made publicly available by being posted on the BC Hydro website:
- a) The Electricity Conservation & Efficiency Advisory Committee Terms of Reference;
 - b) The agenda for each meeting;
 - c) The summary notes once approved by the Advisory Committee;
 - d) Newsletters, press releases and/or media updates; and
 - e) Other work or material produced by the Advisory Committee that the Committee agrees should be made public.
44. BC Hydro will periodically prepare and distribute newsletters, press releases and/or media updates describing the Electricity Conservation & Efficiency Advisory Committee and its progress - such material will not be distributed prior to being reviewed by the Advisory Committee.
45. While Advisory Committee Members may speak to their constituents, stakeholders, the public, and media regarding the Electricity Conservation & Efficiency Advisory Committee and its work, they will do so in a manner consistent with the following:
- a) they will seek to express their points of view as interests rather than positions;
 - b) they will make it clear they are expressing the views of their organization and/or their personal views and are not speaking on behalf of the Advisory Committee;
 - c) they will not speak to the views of other Members or attribute specific positions, suggestions, comments, etc. to them; and
 - d) they will not characterize and report, information, data, or other documents they or others have provided to the Advisory Committee as being sanctioned or endorsed by the by the Advisory Committee unless specifically agreed to by the Advisory Committee.
46. The Advisory Committee may periodically select a spokesperson, to speak publicly for the Advisory Committee.

APPENDIX D

Challenges to Adoption of Energy Efficiency – Using 3 Strategic areas of focus and the 5As

This document was generated by the EC&E to inform the development of DSM strategies and initiatives.

The EC&E determined early on it would be helpful to clearly identify the range of potential barriers or challenges that would need to be considered and overcome in order to implement and adopt programs directed at electricity conservation measures.

The DSM Challenges Matrix considers some of the barriers (awareness, acceptance, availability, affordability and accessibility) to the adoption of energy efficiency, using three contexts that influence peoples' decisions and behaviour - individual, market and societal.

This document will continue to evolve and change as barriers are overcome and situations change.

Barrier Reduction Strategies	Individual Customer	Market	Societal ¹
Awareness <ul style="list-style-type: none"> • information/value prop • feedback/performance 	<ul style="list-style-type: none"> • Incremental (marginal) supply is expensive – average cost of energy is rising but only by a small amount, it is not enough of an incentive for conservation. • Most customers are not aware of how energy efficiency benefits them & what they need to do about it. • Residential customers need information: on reducing energy consumption in the home; on installing residential solar panels, wind mills, etc. and how green energy is generated. • The public does not see the connection between their energy use and the environmental consequences of energy production. 	<ul style="list-style-type: none"> • Incremental (marginal) supply is expensive – average cost of energy is rising but only by a small amount, it is not enough of an incentive for conservation. • People do not understand why price is important – raising awareness. • Peak hour pricing is an option. • Rates are not going to fully reduce the barriers to improved energy efficiency – they are a blunt instrument. • There is very limited awareness among the parties that control the regulation and key parameters in the market place of what might be required to activate the market. • There is limited work done on what might be to costs and benefits of making the changes to reform the market place. 	<ul style="list-style-type: none"> • Incremental (marginal) supply is expensive – average cost of energy is rising but only by a small amount, it is not enough of an incentive for conservation. • The public does not see the connection between their living standard patterns, their energy use and the environmental consequences of energy production. • Environmental footprint is rarely considered. Impact on the environment is often traded for lower cost energy. • There are few models identifying the desirable societal living pattern changes and very little promotion and distribution of any of the concepts so the ground for developing awareness is limited. • The advocacy for adoption of more sustainable living patterns is scattered. It primarily comes from tiny non-profit organizations and gains

¹ The Advisory Committee notes that consideration of societal issues is at an early stage and may lead to substantial changes to the organization and content of this column.

			some foothold in various governmental agencies where beginning sets of changes have been made. There is nothing operating which might step this up to a broader base for deeper reforms to more sustainable patterns.
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Barrier Reduction Strategies	Individual Customer	Market	Societal
<p>Acceptance</p> <ul style="list-style-type: none"> • macro: global/cultural • micro: personal • codes & standards 	<ul style="list-style-type: none"> • The individual adoption of new norms for efficiency and conservation lags the survey statement of concerns about the need for change. • Minimum codes and standards are extremely slow to change, because the integrated parties influencing the codes fear the cost consequences of the implications of the changes. 	<ul style="list-style-type: none"> • The regulators and parties that control the key parameters in the market place have not felt much need to accept different approaches to the market place. • The governments new Energy Plan talks about implementing new rates but does not link well between rates and the other actions needed in the market. • There is little recognition of the changes to the market that might be required, nor the methods required to change, nor the costs of making and sustaining the changes and therefore limited acceptance. 	<ul style="list-style-type: none"> • There appears to be some acceptance of the ability to influence efficiency and conservation by changing societal norms. • The parties that influence and set these societal norms are just beginning to grapple with the politics of this type of change. • There is little recognition of what might constitute the desirable changes in living patterns, how to organize them and how to implement them so the acceptance for making changes is limited. • There is an inherent distrust in the broader community of social engineering (people value their freedom of choice and often reject government imposition of change particularly if they conflict with other important values and or are brought in too quickly). • There is no process for identifying the early adoption volunteers and rewarding them appropriately and or enhancing their options, which limits gaining broader acceptance.

Barrier Reduction Strategies	Individual Customer	Market	Societal
<p>Availability</p> <ul style="list-style-type: none"> • program options/offer • strategic allies 	<ul style="list-style-type: none"> • Participation in programs can be a hassle. • Power Smart programs are available as are federal programs but they have to be sought out or are targeted at limited subsets. • Programs only cover a subset of the available economic potential and are limited in their coverage. • Program budget limitations and conservative target limitations constrain availability for getting to the full efficiency and conservation potential quickly. 	<ul style="list-style-type: none"> • Experimentation with changes to prices has been limited throughout North American and has just begun in BC. • More robust models have not been developed or piloted yet and there is very little of the accompanying infrastructure modeled or piloted necessary to transform the market into an active agent. • There is very limited availability of the detailed operational workings for a reformed market place so there is little to borrow from and most will have to be created. • The analogy models available have not been articulated or not very well and therefore leave the issue of what market reforms to make unavailable. 	<ul style="list-style-type: none"> • The smart growth movement and the net zero movement have some experience with advocating change and influencing plans. • More robust models have not been developed to lead the way to more substantive change. • Availability in the mainstream is blocked by unavailability of attractive models for customers and profitable models for architects and developers.
<p>Accessibility</p> <ul style="list-style-type: none"> • participation requirements 	<ul style="list-style-type: none"> • Participation in programs can be a hassle. • A large number of people have been able to participate in Power Smart programs but necessary market targeting leaves many out and the programs do not cover a significant array of economic potential thus limiting accessibility. 	<ul style="list-style-type: none"> • With limited availability the accessibility issues have not been really tested. 	<ul style="list-style-type: none"> • With limited availability the accessibility issues have not really been tested.

Barrier Reduction Strategies	Individual Customer	Market	Societal
<p>Affordability</p> <ul style="list-style-type: none"> • incentives • price signals (rates) 	<ul style="list-style-type: none"> • Cost effectiveness of energy-efficient products is not always obvious. • EE costs more upfront. • Time and labour required to put towards each EE investment is a major barrier. • Capital funding is a major barrier – Capital vs. Operating costs • EE costs more upfront. • Split incentives especially between the development community and the end purchaser needs to be addressed. • A property manager or business owner with a short-term lease or contract may not want to make a capital investment if the benefit cannot be returned quickly, i.e. short payback. • Incentives do not reflect the full marginal cost to match the costs of new green energy and ensure adequate avoided cost benefits to support investments. • Incentives are limited for dealing with capacity costs, peak costs, seasonal costs and time of use costs. 	<ul style="list-style-type: none"> • There is no clear view as to which party is the proper party to pay for the costs of transforming the market into a primary tool for implementing efficiency and conservation and therefore there is considerable uncertainty about what if anything might prevent them from affording the required funding to make the changes. • Need to reflect the full marginal cost to match the costs of new green energy and ensure adequate avoided cost benefits to support investments. • Higher electricity price signals (such as demonstrated through the Transmission Service Stepped rates) should promote conservation – not currently available to residential and commercial customers. • Price needs to stay low to safeguard industry and the associated jobs. • There are no price signals to address capacity constraints, peak costs and seasonal and time of use conservation. • Energy Service Companies (ESCO) aren't successful because rates are so low and price signals are not in place except for Transmission Service customers. • Security for investments is efficiency and conservation is insufficient to get the optimal investments made. • Aggregate packages of all economic efficiency and conservation investments to reduce transaction costs have not been possible. 	<ul style="list-style-type: none"> • Environmental footprint is rarely considered. Impact on the environment is often traded for lower cost energy. • There is no clear view as to which party is the proper party to pay for the costs of transforming the societal living patterns, to organize the changes and to coordinate implementation therefore there is considerable uncertainty about what might prevent funding for the changes. • There is little information about what the costs might be to transform living standards so affordability has not really been addressed.

APPENDIX E

A Strategic Framework for Electricity Conservation and Efficiency Submitted to the EC&E Advisory Committee by the Strategic Framework Working Group

June 7, 2007

Introduction

A strategic framework constitutes a perspective on an issue and a way of thinking about how to address it. It establishes context and structure and thereby supports understanding and problem solving.

Until recently, BC Hydro's strategic framework on electricity conservation and efficiency focused on the considerable potential to save electricity in the province and a range of market barriers² that prevented consumers from making the "right" choices on energy efficiency. In turn, it delivered a range of programs designed to remove or overcome these market barriers and sought to influence government regulation of energy efficiency, which is another way to overcome selected barriers.

BC Hydro's long term goal for electricity conservation and efficiency triggered a reconsideration of its approach to electricity conservation and efficiency and a recognition that achieving this ambitious goal would require a more comprehensive strategy. It identified 7 strategic areas of focus to guide its future work in this area: public attitudes and behaviours, rates and rate structures, codes and standards, Power Smart programs, technology, lead by example and regulatory framework.

The strategic framework implied by the 7 strategic areas of focus is more sophisticated and comprehensive than the previous framework. However, the EC&E Advisory Committee thought the strategic areas of focus were still inadequate in relation to the long term goal and that BC Hydro should have in place a strategic framework that would lead to areas of focus that would, in turn, support achievement of the long term goal. The Strategic Framework Working Group was formed to explore and develop a strategic framework. The Working Group met twice. In addition, several working group members held one-on-one discussions.

The Working Group believes that this proposed strategic framework represents a better way to view the electricity conservation and efficiency challenge and to think about solving it, and recommends that BC Hydro adopt it.

Overview

The proposed strategic framework can best be described as a framework for societal change. It depicts three contexts – individual, market and societal – each of which influences peoples' decisions and behaviour. And it presents six factors – options, information, culture, economics, implementation and feedback – that need to be considered in any change strategy. They trigger questions that should be asked and answered in a satisfactory manner if change is to be achieved and sustained.

² The market barriers are typically referred to as the 5 A's: availability, accessibility, awareness, affordability and acceptance.

Contexts

The three contexts recognize that peoples' decisions and behaviour are influenced in different ways at different levels.

- The individual context refers to the context of a consumer who makes decisions about energy-using equipment and buildings and how to operate or use them.
- The market context refers to the context of the marketplace and contains a set of parameters (e.g. rights and responsibilities, prices, information) that influence consumer decisions and therefore energy consumption. An example is the standard rental housing situation in which the landlord owns the building and appliances and flows the energy costs through to tenants.
- The societal context refers to the context of the community or society and is made up of social patterns of living, work, shopping, education and other activities that influence market parameters and individual choices. An example is the combination of the 5-day work week, double-income families and separate homes and offices which results in homes and offices being empty yet consuming energy for significant proportion of the year.

The higher level contexts have considerable leverage over the lower level ones, and it is this leverage that is particularly attractive to the Working Group. To date, BC Hydro has focused at the individual level, and to some extent at the market level. The 7 strategic areas of focus have the potential to increase the focus at the market level. But to truly achieve transformative change, as called for in the long term goal, BC Hydro will need to capitalize on the leverage offered by enacting change at the societal and market levels.

Factors

The six factors influence change in different ways:

- Options refer to alternatives that create the opportunity for change.
- Information refers to consequences that inform the rationale for change.
- Culture refers to values or norms that spawn or reinforce the need for change.
- Economics refers to benefits and costs that establish an incentive for change.
- Implementation refers to convenience that dictates the ease of change.
- Feedback refers to information that supports recognition of the reality of change.

Each factor triggers different questions in each context; questions that should be asked when conceiving strategies and tactics to achieve change. The following table illustrates some of these questions.

Contexts

Factors	Individual	Market	Societal
Options	What energy efficient alternatives exist for a specific end-use or type of equipment?	What alternatives exist for market parameters that affect energy consumption?	What alternatives exist for social patterns or norms that affect energy consumption?
Information	What does a consumer need to know to compare the alternatives?	What are the consequences of the existing market parameters, and what impact would alternative market parameters have on market actors?	What are the consequences of existing social patterns and norms, and how would they differ with alternative social patterns and norms?
Culture	How can we reinforce the consumer's selection of the energy efficient alternative as the right choice?	How can we support and reinforce the alternative market parameter so that it becomes standard practice?	How can we reinforce the alternative social pattern or norm as being preferred?
Economics	Is the consumer better off financially with the energy efficient alternative?	How much do market parameter need to change to justify energy efficient alternatives at the individual level?	How can we justify the idea of changing a social pattern or norm?
Implementation	How can we make it easy for the consumer to choose the energy efficient alternative?	How can we make it easy to adopt the alternative market parameter?	How can we make it easy to adopt an alternative social pattern or norm?
Feedback	How will the consumer know that they're deriving benefit from the energy efficient alternative?	How will we know if the new market parameter is affecting energy consumption and how will we communicate this to stakeholders?	How will we know if the new social pattern or norm is affecting energy consumption and how will we communicate this to society?

Implications for BC Hydro

This strategic framework would help BC Hydro to develop a more comprehensive range of tactics to save electricity. For example:

- To achieve electricity conservation and efficiency in new homes, BC Hydro would not only implement a Power Smart program to encourage the incorporation of energy efficiency in new homes (individual), but also support the establishment of minimum energy efficiency standards for new homes (market) and a reconsideration of societal expectations around the size of new homes (societal).
- To achieve electricity conservation and efficiency in commercial buildings, BC Hydro would not only implement a Power Smart program to help building owners retrofit their buildings (individual), but also introduce a conservation rate for the commercial customer class (market) and support a shift from retail to online shopping (societal).

BC Hydro's current DSM thinking is largely focused on the individual context, with some activity – such as rates and codes and standards – focused at the market context. Working in the societal context will be largely new to BC Hydro and as such it will take time for BC Hydro to achieve an appropriate balance of focus across the 3 contexts. If BC Hydro adopts this strategic framework, the Working Group would expect the transition to a more balanced 3-context strategy to occur over the course of a number of years.

Clearly BC Hydro has more influence in the individual context relative to the market and societal contexts. It can use its reputation and financial resources to influence the behaviour of many customers and even change some market parameters. However, it will need to be more of an advocate or catalyst for changes to most market parameters or the evolution of social patterns and norms. Capitalizing on opportunities within the market and societal contexts will require BC Hydro to increase its ability to influence the institutions and stakeholders that dictate market parameters and the social processes and dialogue that generate social patterns and norms. While this may seem daunting, we believe BC Hydro is unique in the province in terms of the political, financial and human resources that are at its disposal. As such, we believe it is well positioned to be an effective agent of change on electricity conservation and efficiency.

The mix of strategies directed at the 3 contexts will need to account for the interrelationships between those contexts. In relation to the leverage mentioned above, BC Hydro's activities at the lower-level contexts will be partially dictated by its achievement in securing changes at the higher-level contexts. For example, if BC Hydro changes its rates (e.g. a change in a market parameter) in order to improve the affordability of energy efficient equipment (a barrier at the individual level), BC Hydro's Power Smart programs may need to change so that they continue to address the remaining barriers at the individual level.

The Working Group believes that the factors do not replace the market barriers but rather complement them. The market barriers are useful concepts to inform the design of DSM initiatives directed at individual consumers, by helping to determine what a DSM initiative needs to achieve. But they are less relevant or useful for the market and societal contexts. The factors are useful concepts to inform the design of DSM initiatives directed at any of the three contexts. They help to determine the content and implementation of a DSM initiative.

Rates Working Group Terms of Reference - FINAL

INTRODUCTION

BC Hydro is committed to mutually beneficial, respectful, and transparent engagement with First Nations, British Columbia communities and stakeholders. The purpose of these Terms of Reference (TOR) is to ensure that the members of BC Hydro's Rates Working Group have a clear understanding of the Working Group's objectives and what is expected of its members. These TOR are intended to provide assurance that First Nations, community and stakeholder values will be integrated into BC Hydro's electricity rates planning while supporting the smooth functioning of the Rates Working Group.

Context

1. The Provincial Energy Plan provides the energy policy direction for British Columbia and guidance for BC Hydro's planning and operations. The Energy Plan's vision for clean energy leadership is a made in BC solution to the global challenge of ensuring secure reliable supply of affordable energy in an environmentally responsible way. The actions contained within this plan seek to deliver social, environmental, and economic benefits throughout B.C. by conserving energy and improving the energy efficiency of homes and buildings. BC Hydro will play a key role in implementing the details of the Provincial Energy Plan.
2. The British Columbia Utilities Commission is a regulatory agency of the Provincial Government, operating under, and administering, the Utilities Commission Act ("UCA"). The Commission's mission is to ensure that ratepayers receive safe, reliable, and non-discriminatory energy services at fair rates from the utilities it regulates, and that shareholders of those utilities are afforded a reasonable opportunity to earn a fair return on their invested capital.
3. In March 2006 BC Hydro presented its 2006 Integrated Electricity Plan (IEP) to the BC Utilities Commission. The 2006 IEP provided an analysis of challenges and choices fundamental to securing British Columbia's electricity future by looking at two critical questions:
 - a) What are the resources BC Hydro will need to meet its share of British Columbians' electricity demands and
 - b) when will BC Hydro need them?
4. BC Hydro's current load forecast indicates that BC's electricity requirements will grow between 25 and 45 percent over the next 20 years. As part of its responsibility to ensure the province's electricity supply needs for the future are met, BC Hydro is looking at a variety of options to fill our future needs and the supply gap that is emerging ahead. Filling the emerging electricity gap will be met in three fundamental ways: conserving more, buying more from independent power producers and building more.
5. For a number of reasons BC Hydro believes the first priority for managing the future supply gap that has been identified should be achieving cost and economically effective conservation. Central to this is helping industrial, commercial and residential customers become more efficient and wise in their use of electricity. BC Hydro believes the development and implementation of its initiatives to assist customers with electricity conservation are likely to be more effective if they are informed by input from First Nations, British Columbia communities, and stakeholders. BC Hydro further believes such input is best achieved through the establishment of a formal Rates Working Group that is informed and is able to interact with BC Hydro on an ongoing basis.
6. BC Hydro is aligned to play a leadership role in delivering the Provincial Energy Plan and will work with government, customers, industry and the public to achieve the objectives the company sets out. As such, BC Hydro has agreed to establish a Rates Working Group to provide advice and input into the Long Term Rate

Strategy, 20 year Demand Side Management Plan, Conservation Research Initiative and Advanced Metering Infrastructure, all of which involve rates that need to be designed to meet the objectives of the Provincial Energy Plan.

WORKING GROUP OBJECTIVES

7. The objectives of the Rates Working Group are to:
 - a) Build awareness and understanding of different rate options, their potential impact and how each rate option could contribute to reducing the electricity gap through encouraging conservation and shifting patterns of energy use.
 - b) Provide input and advice on the design and implementation of rates that will be supported by BC Hydro's customers.
 - c) Identify any challenges or unforeseen opportunities in Utilipoint's 'pricing portfolio'.
 - d) Review customer research on possible rate options and the acceptable rate/pace of change, and advise on how new rate structures could be implemented.
 - e) Provide input and advice on how to improve BC Hydro's approach to moving from the existing tariff to the implementation of a conservation based tariff.
 - f) Provide recommendations for best methods of communicating potential changes to First Nations and Stakeholders.
 - g) Provide input and advice on the best methods of communicating potential rate changes to First Nations and Stakeholders
 - h) Review and provide recommendations and advice in regards to the evaluation results of any potential rate trials.

MANDATE

8. The over-arching mandate of the Rates Working Group is that given the growing gap between electricity supply and demand in B.C., the group will provide input and advice on how BC Hydro can design and implement rates that provide a price signal to encourage economically efficient and cost effective conservation, and efficient use of electricity, while ensuring that rates are fair and simple to understand.
9. The mandate for the first year of the Working Group's operation is:
 - a) To provide advice, input, and generate innovative concepts and approaches to support the development of BC Hydro's Long Term Rate Strategy, 20 year Demand Side Management Plan, Conservation Research Initiative and Advanced Metering Infrastructure initiatives.
 - b) To provide a forum for identifying and responding to key issues associated with BC Hydro's tariff. In developing recommendations, the Rates Working Group shall do so in a manner that recognizes BC Hydro operates within a context of provincial energy policy, the regulatory mandate of the British Columbia Utilities Commission, international treaties, customer expectations, unresolved Aboriginal land claims, environmental issues and business and other requirements.
 - c) To provide advice on how to structure meaningful opportunities for other stakeholder and First Nations input on BC Hydro's rates and electricity conservation and efficiency programs, and to assist BC Hydro in designing its ongoing approach to creating those opportunities for input.
10. Input and advice from the Rates Working Group to BC Hydro will be recorded in the meeting notes and in the Annual Consultative Report of the Electricity Conservation and Efficiency Advisory Committee.

OPERATIONS

11. The Rates Working Group shall also be responsible for working with the Facilitator to prepare information to be included in the Annual Consultative Report as outlined in the Electricity Conservation and Efficiency Advisory Committee Terms of Reference and forward this documentation to BC Hydro's Project Team(s) involved with rates initiatives.
12. On or before March, 31st of each year, BC Hydro and the Rates Working Group shall review the Mandate and determine if there are changes to the Mandate that both parties believe would be beneficial for the ensuing year.
13. While the role of the Rates Working Group is purely "advisory" (i.e. the Working Group has no authority to make decisions that are binding on BC Hydro):
 - a) BC Hydro will work with the Rates Working Group to ensure that the interests and concerns in relation to rates identified by the Working Group are clearly understood and considered in the design and implementation of BC Hydro's Long Term Rate Strategy, 20 year Demand Side Management Plan, Conservation Research Initiative and Advanced Metering Infrastructure initiatives;
 - b) For each recommendation made by the Rates Working Group, BC Hydro will advise the members how it deals with that recommendation (i.e. if the recommendation is accepted in whole, in part, or with modifications, and the specific steps taken by BC Hydro on the basis of that recommendation); and
 - c) Where the BC Hydro decides not to act on part or all of a recommendation, or decides to modify a recommendation, it shall provide the Working Group with a rationale for its decision.
14. The Rates Working Group shall work with the Facilitator to prepare and sign off on documentation that will be provided to the Electricity Conservation and Efficiency Advisory Committee for the purpose of forming part of their annual consultative report. The following information should be included:
 - a) the overall Rates Working Group process, including the Rates Working Group's mandate, objectives and operations;

- b) the rate options considered and an evaluation of the potential impacts identified for each, including suggestions around the design and implementation of rates that would be supported by BC Hydro's customers;
 - c) recommendations on the best methods of communicating potential changes to First Nations and Stakeholders;
 - d) areas of agreement and disagreement;
 - e) assessment of the effectiveness of the Rates Working Group in influencing the design and implementation of BC Hydro rates initiatives;
 - f) Rates Working Group members' assessment of their experience as members and how well the interests of their organizations were addressed;
 - g) suggestions or recommendations to BC Hydro on appropriate changes to any similar future stakeholder involvement processes; and
 - h) other aspects of the process the Rates Working Group wishes to address.
15. In addition to informing the Electricity Conservation and Efficiency Advisory Committee, the Working Group will elect a representative to present the information to BC Hydro's project teams involved with the Long Term Rate Strategy, 20 year Demand Side Management Plan, Conservation Research Initiative and Advanced Metering Infrastructure initiatives.

DECISION-MAKING

16. The Rates Working Group shall function as a consensus based organization:
- a) Consensus shall be defined as no substantial disagreement on an issue/matter by any member; however;
 - b) Consensus may include agreement on a document that describes different points of view on an issue/matter;
 - c) Consensus shall be determined by the Facilitator asking if any member substantially disagrees with a proposed decision or recommendation on a matter; and
 - d) BC Hydro representatives appointed to the Rates Working Group shall not participate in any determination of whether a consensus exists on a proposed recommendation in relation to a substantive issue/matter related to the Mandate.
17. All recommendations in relation to substantive issues/matters related to the Mandate, including periodic revisions to these Terms of Reference shall be made by consensus.

18. In the event of an impasse in relation to a substantive issue/matter:
 - a) the Facilitator shall assist Rates Working Group members in identifying a mutually acceptable resolution to the impasse using interest based approaches/techniques the Facilitator considers most appropriate in the circumstances – these may include:
 - i) Assisting Rates Working Group Members to clearly define the issue(s) and areas of disagreement;
 - ii) Assisting Rates Working Group Members to identify their interests with respect to the subject under discussion;
 - iii) Utilizing brainstorming sessions and other techniques determined appropriate by the Facilitator to identify options that can address the interests identified;
 - iv) Assisting the Rates Working Group Members to develop criteria for evaluating options, where appropriate; and
 - v) Facilitating the evaluation of options and the selection of the preferred option; and
 - b) If the impasse remains, the Facilitator shall record the specific issue in dispute and the differing views with respect to that issue (without attribution to individual Members unless they ask to be specifically identified);
19. The Rates Working Group shall strive to deal with all administrative and procedural issues/matters by consensus.
20. In the event of an impasse in relation to a substantive administrative and procedural issue/matter:
 - a) The Facilitator will make a specific recommendation to the Rates Working Group on how the issue/matter should be dealt with from a best practices perspective; and
 - b) If the impasse remains, the issue will be dealt with in a manner determined most appropriate by the Facilitator.

RATES WORKING GROUP STRUCTURE

Members

21. The Rates Working Group shall consist of:
 - a) Fifteen individuals drawn from the Energy Conservation and Efficiency Advisory Committee, other Stakeholder Engagement initiatives and the general public.
 - b) One representative from BC Hydro.
22. All decisions on membership, including reappointments, new appointments, and term of appointments shall be made by BC Hydro.
23. The initial membership of the Rates Working Group shall be as listed in Appendix 1 of these ToR (the (“Initial Appointments”).
24. The term of all Initial Appointments shall be
 - a) one year effective as of April 15, 2007, plus either
 - b) an additional one or two years determined on a lottery basis.

25. Upon the expiry of the Initial Appointments:
- a) BC Hydro shall consider reappointments and determine new appointments in a manner that draws a balance between continuity of Rates Working Group membership and creating opportunities for new members; and
 - b) The term of all reappointments and new appointments shall be two years.
26. BC Hydro may cancel membership of an individual at any time on the basis of poor attendance or failure to conduct oneself in accordance with the “Responsibilities of Members” as set out below.
27. There shall be no provision for alternate members.

Observers and Guests

28. Upon request, and where agreed to by the Rates Working Group, First Nations representatives, community representatives, and other stakeholders may attend selected meetings as observers (“Observers”):
- a) The dates of meetings open to Observers will be established by the Rates Working Group;
 - b) and made available in advance;
 - c) Observers will not sit at the main table;
 - d) Except where requested and/or agreed to by the Rates Working Group, Observers will not make presentations or participate in discussion; and
 - e) Observers will not participate in any decision making.
29. Where determined appropriate, the Rates Working Group may invite experts or other individuals to attend meetings to provide technical presentations or respond to questions on a subject relevant to the considerations of the Working Group (“Guests”) – Guests will not participate in decision-making.

ANNUAL WORK PLAN

30. On or before March, 31st of each year, BC Hydro and the Working Group shall develop a mutually acceptable work plan for the following year. This work plan shall:
- a) Identify the key tasks to be undertaken by the Working Group for the upcoming year, required actions, information and sequence of steps to undertake those tasks and assignment of responsibility for each of those steps; and
 - b) Establish a meeting schedule for the year.

RESPONSIBILITIES OF MEMBERS

31. Rates Working Group members are expected to:

- a) conduct themselves and discuss issues in a manner that is constructive, interest based, and respectful of others;
- b) strive for consensus;
- c) attend and actively participate in all meetings;
- d) review all provided materials in advance of meetings;
- e) review draft notes of each meeting they participate in and suggest any modifications or additions they deem necessary to ensure the accuracy of the notes;
- f) acquaint themselves with the discussion and outcomes at any meetings they are unable to attend;
- g) keep their constituents informed on progress of the Rates Working Group; and
- h) work with the Facilitator to ensure that the results of the Rates Working Group is an accurate representation of the members' experience and views that will be incorporated into the Electricity Conservation and Efficiency Advisory Committee's Annual Consultative Report.

PROCESS MANAGEMENT

Facilitator

32. BC Hydro may appoint a Facilitator or engage the services of an independent Facilitator mutually acceptable to the Working Group.

33. The Facilitator shall be responsible for:

- a) aiding the Rates Working Group in achieving its Mandate;
- b) ensuring that all parties are heard and assisting parties in resolving differences in a manner that is fair and without unnecessary delay or expense;
- c) ensuring all discussions take place in a manner consistent with Section 30(a);
- d) being and remaining impartial, according equal attention and courtesy to all persons involved;
- e) facilitating all meetings of the Rates Working Group and, upon request, facilitating any sub-groups;
- f) working with the BC Hydro Project Team(s) and Rates Working Group members to create an agenda for each meeting;
- g) working with BC Hydro Project Team(s) to ensure the draft meeting notes accurately reflect the Rates Working Group's discussions and decisions when they are distributed to the Rates Working Group members for review; and
- h) working with the Rates Working Group members to produce documentation that will be provided to BC Hydro's Project Team(s) and the Electricity Conservation and Efficiency Advisory Committee for their Annual Consultative Report.

BC Hydro Project Team

34. BC Hydro shall establish a Project Team(s) to support the work of the Rates Working Group.

35. The Project Team(s) shall be responsible for:

- a) Providing relevant background material to Rates Working Group members, for their review and consideration, in advance of each meeting;
- b) Seeking input from Rates Working Group members on the tasks and activities identified in BC Hydro's Long Term Rate Strategy, 20 year Demand Side Management Plan, Conservation Research Initiative and Advanced Metering Infrastructure initiatives;
- c) Reviewing the Rates Working Group's recommendations;
- d) Providing a rationale for how each recommendation provided by the Rates Working Group has been addressed (i.e. if the recommendation is accepted in whole, in part, or with modifications, and the specific steps taken by BC Hydro on the basis of that recommendation);
- e) Incorporating recommendations received by the Rates Working Group into BC Hydro's current planning process and or plans where appropriate as determined above;
- f) Coordinating all communications on Rates Working Group activities to internal and external audiences; and
- g) Providing all logistics support to the Rates Working Group as necessary.

Stakeholder Engagement Advisor

36. BC Hydro shall designate a Stakeholder Engagement Advisor who will be the primary contact person for all Rates Working Group Members.

37. The Stakeholder Engagement Advisor shall be responsible for:

- a) arranging for facilitation services;
- b) preparing and distributing materials for the Rates Working Group meetings;
- c) arranging the logistics of all meetings;
- d) preparing and distributing meeting notes of Rates Working Group meetings, workshops or other meetings; (Meeting notes are expected to summarize discussions and record agreements, decisions, and any areas of disagreements. All such draft notes will be distributed directly to each Rates Working Group Member for review and comment.);
- e) assisting with preparation and presentation of the documentation to be provided to the Rates Working Group and BC Hydro Project Team(s);
- f) administering participant resources;
- g) developing and maintaining communication links with interested parties;
- h) maintaining a database of interested parties who are to receive newsletters and other materials about the Rates Working Group;
- i) producing and issuing all communications materials about the Rates Working Group; and
- j) ensuring that all draft newsletters and other public or communications materials about the Rates Working Group are reviewed with the Working Group before issuing them.

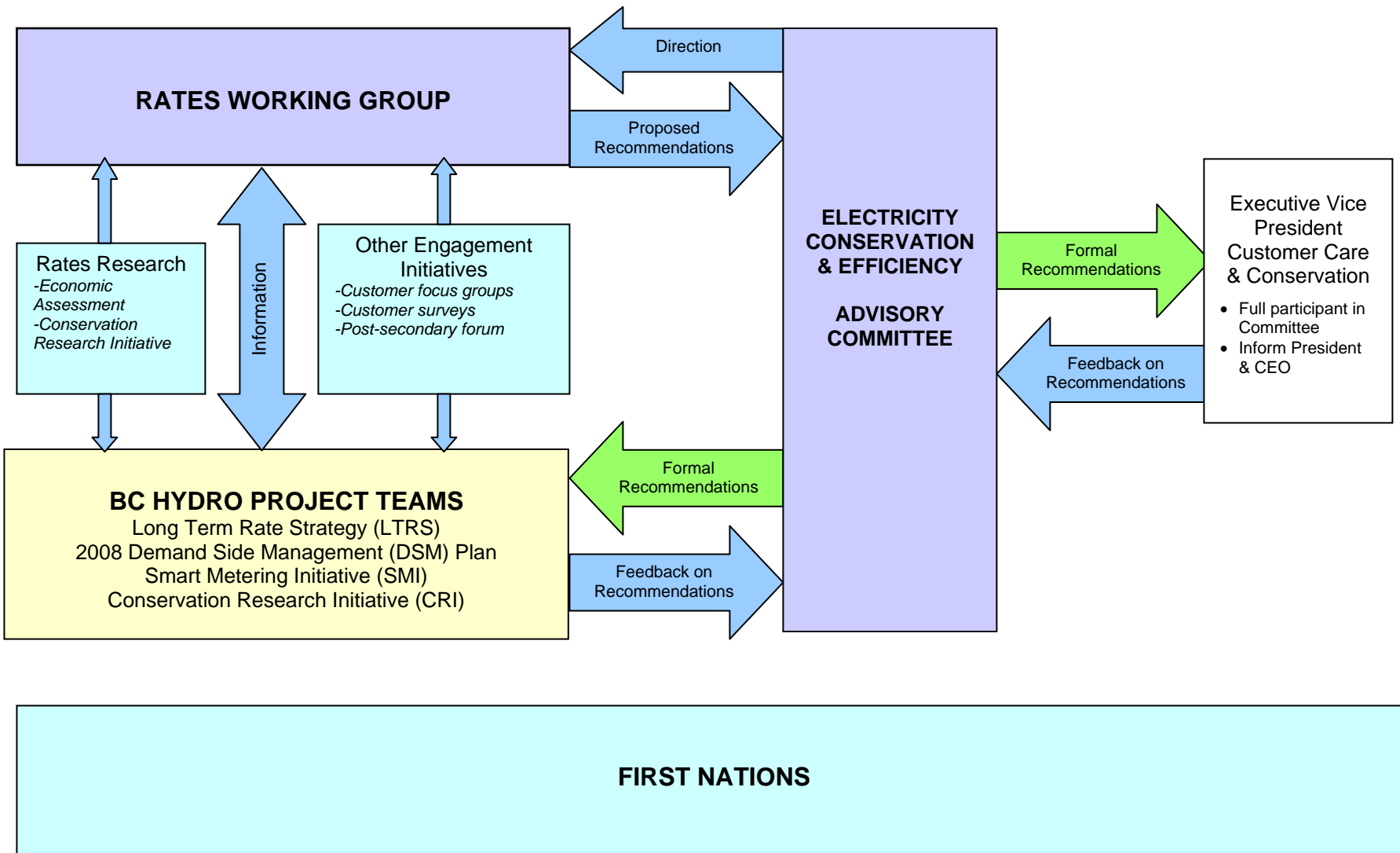
MEETINGS

38. Meetings of the Rates Working Group shall be conducted in accordance with an agenda approved by the Working Group at the outset of the meeting – to expedite this, the Facilitator shall distribute in advance of each meeting a draft/proposed agenda based on the Work Plan, discussion/direction at the prior Rates Working Group meeting, and input from the BC Hydro Project Team
39. Except where otherwise agreed by the Rates Working Group, meetings shall be attended only by Members, Observers, Guests, and the BC Hydro Project Team.
40. Meetings of the Rates Working Group shall be recorded in meeting summaries that briefly summarize the matters discussed and any recommendations made. Unless specifically requested by them, meeting summaries shall not attribute specific points of view to individual Members.

PUBLIC COMMUNICATION

41. The following will be made publicly available by being posted on the BC Hydro website:
 - a) The Rates Working Group Terms of Reference;
 - b) The agenda for each meeting;
 - c) The summary notes once approved by the Rates Working Group;
 - d) Newsletters, press releases and/or media updates; and
 - e) Other work or material produced by the Rates Working Group that the members agree should be made public.
42. BC Hydro may periodically prepare and distribute newsletters, press releases and/or media updates describing the Rates Working Group and its progress - such material will not be distributed prior to being reviewed by the Rates Working Group.
43. While Rates Working Group Members may speak to their constituents, stakeholders, the public, and media regarding the Rates Working Group and its work, they will do so in a manner consistent with the following:
 - a) they will seek to express their points of view as interests rather than positions;
 - b) they will make it clear they are expressing the views of their organization and/or their personal views and are not speaking on behalf of the Rates Working Group;
 - c) they will not speak to the views of other Members or attribute specific positions, suggestions, comments, etc. to them; and
 - d) they will not characterize and report, information, data, or other documents they or others have provided to the Rates Working Group as being sanctioned or endorsed by the Rates Working Group unless specifically agreed to by the Rates Working Group.
44. The Rates Working Group may periodically select a spokesperson, to speak publicly for the Rates Working Group.

Appendix 2: Information flow between the Electricity Conservation & Efficiency Advisory Committee, Rates Working Group and BC Hydro



APPENDIX G

EC&E Advisory Committee – Codes and Standards Working Group Preliminary Recommendations on Codes and Standards

October 22, 2007

Background/Context

1. The Mandate of the EC&E is to provide BC Hydro with advice on a variety of issues in relation to electricity conservation and efficiency – this specifically includes advice on how to achieve BC Hydro's goal of meeting 50 per cent of future increases in electricity demand through conservation and efficiency measures.
2. In undertaking its work, the EC&E has established a number of Working Groups, one of which is the Codes and Standards Working Group.
3. The mandate of the Codes and Standards Working Group is to provide recommendations to the EC&E on:
 - a) How to think about codes and standards in the context of the 3-level strategic framework
 - b) The role(s) BC Hydro should play in codes and standards, and potentially the roles other organizations should play
 - c) Changes to codes and standards to pursue
 - d) How to use regulation in different ways than previously or at different points on the market transformation curve
 - e) Tactics BC Hydro should employ to affect changes to codes and standards
 - f) The quantification and attribution of codes and standards savings to BC Hydro's efforts

These topics are in decreasing order of priority and go from strategic to tactical. The Working Group decided at the beginning of its work that it may choose to not address all topics. This report contains the Working Group's recommendations on topics a, b and c from its mandate.

4. The Working Group, for the purposes of its work, defines codes and standards as a term that refers to a variety of public policy instruments, some of which are not a code or standard: examples include taxes and municipal building permitting rules.
5. The Working Group views codes and standards as a tool that sits largely in the market category, in that they establish rules for, or influence the decisions of, market players. In addition, the Working Group believes codes and standards can potentially influence at the level of individual or society if designed as such.
6. The Working Group notes that in many cases, codes and standards can provide an effective way of achieving energy savings and that BC Hydro and other utilities are well positioned to research and communicate those opportunities. For example:
 - a) BC Hydro played a significant role in the development of window standards for B.C.
 - b) Ontario Hydro played a significant role in the development of the 1997 Model National Energy Codes for Buildings and Houses (MNEC) and in Ontario's adoption of the MNEC levels in its provincial building code.

EC&E Recommendations to BC Hydro

7. The Working Group recommends that BC Hydro build on, and increase, its historic role with respect to supporting energy efficiency codes and standards including:
 - a) Advocating and supporting the implementation of the most stringent energy efficiency codes and standards that are cost effective and feasible in the context of the B.C. market.
 - b) Ensuring that DSM programs employ performance specifications and test methods that are consistent with their eventual implementation as codes and standards labelling programs.
 - c) Recognizing in their program offerings the relationship between high performance specifications and minimum energy performance codes and standards so that the stage is set for continuously improving building and equipment performance standards.
 - d) Ensuring that high performance building labelling programs are implemented in the new and existing construction segments and that these programs are consistent with the infrastructure that supports minimum energy performance requirements in those segments.
 - e) Providing ongoing consideration to the full breadth of opportunities to employ codes and standards to achieve energy savings. Opportunities should be evaluated to assess whether or not they represent more substantive and/or more cost-effective opportunities than demand side management programs or, if they can support demand side management programs in achieving even greater savings.
 - f) Monitoring the use of codes and standards in other jurisdictions to ensure emerging and evolving opportunities for codes and standards that can be applied in B.C.
 - g) Encouraging enacting bodies to conduct impact assessments of proposed codes and standards revisions/additions to ensure a net positive impact for society and industry.
 - h) Advocating that future energy codes for buildings:
 - i) Regularly update their energy efficiency requirements,
 - ii) Accommodate both performance and prescriptive paths for compliance, and
 - iii) Consider the inclusion of a “Merton Rule” (www.themertonrule.org), whereby a proportion of new buildings’ energy needs must be met with onsite renewable energy indirectly encouraging greater energy efficiency.

8. The Working Group recommends that BC Hydro take the following implementation actions:
 - a) Support the building of coalitions to support market transformation and changes to codes and standards. Leadership/coordination of coalition building should be outsourced to a suitable NGO where appropriate.
 - b) Support codes and standards through education, the identification of best practices, and the building of capacity for enforcement.
 - c) Help to build public support for government policy on energy efficiency, including the B.C. green building code.
 - d) Join the committee that will oversee the development of a new Model National Energy Code for Buildings.
 - e) Advocate for mandatory labelling of all existing buildings at the time of sale in addition to mandatory energy performance labelling of all new buildings, while also supporting research and consultation to ensure that any labelling system facilitates a fair and accurate comparison of building energy performance.
 - f) Educate local governments about the benefits of codes and standards.
 - g) Ensure that all parties work together to align with the standards that will be developed during First Nations treaty process.
 - h) Advocate for fuel-neutral codes and standards that favour neither electricity nor natural gas.
 - i) Provide financial and technical support for the development of Canadian Standards Association (CSA) energy performance standards.

9. The Working Group recommends that BC Hydro estimate, for each item in BC Hydro's list of proposed changes to codes and standards, current electricity consumptions and potential electricity savings, in order to support the prioritization of effort.



Bob G. Elton
President & Chief Executive Officer

17 March 2008

reliable power,
at low cost,
for generations

Dear EC&E Advisory Committee,

Re: BC Hydro Response To 2007 Recommendations From Electricity Conservation And Efficiency (Ec&E) Advisory Committee:

Thank you for your work over the past year in helping BC Hydro achieve our ambitious conservation and efficiency targets. The Committee's work and recommendations are of great value to BC Hydro.

As you know, the Provincial Energy Plan target set a goal for BC Hydro to acquire 50 per cent our incremental electricity resource needs through conservation by 2020. One of our long-term goals is to develop and foster a culture of conservation in British Columbia that will motivate our customers to make a dramatic and permanent reduction in electricity intensity. The long term goal has always been to decrease electricity intensity such that consumption in 20 years is equal to today's levels. Demand Side Management is the best opportunity we have to achieve our conservation goal and, in turn, provide energy for generations. However, we recognize that BC Hydro doesn't have all the solutions and we need to work with First Nations, Stakeholders and committees such as yours to achieve our goals.

The Committee's recommendations have been deliberated at great length across BC Hydro and I am pleased to provide our response and course of action. For the Committee's reference, a copy of these recommendations is attached.

Responses to Strategic Recommendations

Strategic Framework – BC Hydro has adopted the recommended strategic framework. We believe that the strategic framework that you have created is better aligned with meeting BC Hydro's vision than our original seven areas of strategic focus. The Strategic Framework has already improved the execution of our vision by contributing to the creation of a new context for identifying, discussing, and assessing diverse issues and ideas in relation to energy conservation and efficiency. Further, we anticipate that this framework has portability to other jurisdictions and other parts of the energy sector, and we will be bringing it to their attention in due course. Concepts from the framework are currently in use, guiding the discussions regarding demand-side management strategies, to identify more comprehensive conservation techniques. We believe that this framework, when fully executed, will be a key factor in realizing our vision for conservation and efficiency. We look forward to receiving further recommendations from the Committee for additional refinement to the strategic framework.

Codes & Standards – BC Hydro agrees with all of the Committee's recommendations with the exception of recommendation 8(h), which calls for BC Hydro to advocate fuel-neutral codes and standards. BC Hydro will await guidance from Provincial policy on this particular matter.



The following are BC Hydro's responses to each recommendation:

Recommendation 7(a) – BC Hydro will focus work in a number of areas in its commitment to advocating and supporting the implementation of the most stringent, cost-effective codes and standards in the province;

Recommendation 7(b) and 7(c) – BC Hydro will coordinate and align its codes and standards work with the design of its marketing programs. Higher energy efficiency levels will be continuously identified to ensure that program offers can accelerate market transformation;

Recommendation 7(d) – Research has been conducted on building labeling programs in other jurisdictions. A labeling pilot for new and existing commercial buildings is due to launch in early 2008 and a program is being developed for labeling of residential homes. BC Hydro will continue to support these efforts where appropriate;

Recommendation 7(e) – BC Hydro will provide ongoing consideration to the potential impact of codes and standards to achieve energy savings. To inform BC Hydro's new long term Demand Side Management (DSM) plan, work has been initiated to estimate the potential savings impact of codes and standards;

Recommendation 7(f) – To inform best practices for B.C., research is being conducted on codes and standards in other jurisdictions across Canada, the United States and Europe;

Recommendation 7(g) – BC Hydro will continue to play a key role in setting long and short term priorities for the development of federal and provincial energy efficiency standards, by working closely with government and interest groups such as Natural Resources Canada, Ministry of Energy Mines and Petroleum Resources, and the Canadian Standards Association. BC Hydro will advocate and support the implementation of the most stringent, yet cost-effective codes and standards in BC.

Recommendation 7(h) – BC Hydro has joined the Standing Committee responsible for updating the Model National Energy Code for Buildings and will continue to be represented on that Committee. BC Hydro will continue to advocate the highest energy efficiency standards in the Model National Energy Code for Buildings and in the 2010 update to the BC Green Building Code. BC Hydro plans to undertake research with respect to the "Merton Rule", in coordination with a distributed generation strategy.

Recommendation 8(a) – BC Hydro will continue to actively support market transformation and changes to codes and standards through joint funding and collaboration on priorities with other utilities and engagement with other stakeholders. BC Hydro also will continue to provide funding and technical support on standards development through its representation on Canadian Standards Association committees;

Recommendation 8(b) – To achieve a high level of compliance with, and enforcement of, codes and standards, and in particular the Green Building Code, BC Hydro will work closely with the Ministry of Energy, Mines and Petroleum Resources, Building and Safety Policy Branch and other stakeholders to support industry and municipalities in addressing their education and training needs, and to ensure necessary capacity is built;

Recommendation 8(c) – BC Hydro will advocate for and support the implementation of stringent, yet cost-effective energy efficiency codes and standards in British Columbia , including the Green Building Code;

Recommendation 8(d) – As identified in the response to recommendation 7(h), BC Hydro has joined the Standing Committee responsible for updating the Model National Energy Code for Buildings and will continue to be represented on that Committee;

Recommendation 8(e) – Research of stakeholder issues and strategies for pilots and implementation has been undertaken to consider the best approach to mandatory building labeling. A labeling pilot for new and existing commercial buildings is due to launch in early 2008 to inform this effort;

Recommendation 8 (f) – BC Hydro will work with municipalities to explore how they can go beyond minimum regulated efficiency levels through various policy instruments;

Recommendation 8 (g) – BC Hydro, through the Aboriginal Sector within its Key Account Management group, will develop a strategy to align with the standards developed during the First Nations Treaty Process;

Recommendation 8 (h) – BC Hydro will await Provincial policy guidance on this particular matter;

Recommendation 8 (i) – BC Hydro will continue to provide funding and technical support to standards through representation on Canadian Standards Association (CSA) committees;

Recommendation 9 – BC Hydro has estimated the potential electricity savings from roughly 30 changes to codes and standards, to inform BC Hydro's new Demand Side Management Plan. Our Evaluation, Measurement and Verification Group is also developing a process and consistent methodology for tracking and reporting energy savings from codes and standards.

In closing, I commend you on your innovative work and your unconstrained creativity. BC Hydro looks forward to continuing to work with you to achieve our vision. We know we can't do it alone and we will continue to need committed people like you to generate new ideas that will help us to achieve our ambitious conservation targets through action. I look forward to your continued and valued input in 2008.

Yours truly,



Bob Elton
President and Chief Executive Officer

Encl.