



## *Cornerstone Hydro Electric Concepts Association Inc.*

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**CHEC-RP-2004-0203/EB-2004-0502**

### **Conservation and Demand Management 2006 Annual Report**

#### **1.0 Introduction:**

This report summarizes the activity and successes of the Cornerstone Hydro Electric Concepts (CHEC) Group with respect to conservation and demand management undertaken in 2006. Included in this document are the sixteen (16) individual reports from the CHEC members that discuss their specific program activities and the associated insights of the members.

Consistent with CHEC members' cooperative effort to seek approval of their CDM plans as a combined group, the Annual Report reflects their commitment to work together to provide cost effective programs and to share and learn from each other's experience. In 2006 the CHEC group worked both individually and collectively to delivery CD&M programs. The individual reports from each utility provides to the reader a better understanding of the activity and focus of each utility while this summary report provides an overview of the impact of this combined effort.

In 2006 the level of activity varied significantly from member to member dependent on their remaining funds, resources and opportunities. Individual LDC activity level ranged from only being involved in "provincially led" initiatives to the development and delivery of a wide variety of programs. From a review of the programs it is interesting to note how opportunities, partnerships and delivery have matured at different rates in the different service territories.

Within the 16 utilities there have been a total of 104 initiatives worked on in 2006. As in the first year the initiatives represent projects specific to individual utilities and projects that are cooperative efforts between utilities or agencies (the OPA EKC Programs for example). While there were 104 initiatives included in the reporting many of the reports contained a number of separate activities joined in one Appendix B.

After the initial year where much of the ground work for future programs was started, one would expect that the majority of programs would be driving a positive TRC. On the population of 104 initiatives, 43% had a positive TRC. This low percentage of initiatives with a positive TRC indicates that many initiatives continued to focus on education, studies to prepare customers for

continued energy conservation and partnership building in the second year of the CDM program.

With the activity and experience gained in 2006 the CDM industry is moving towards the final year of third tranche funding and towards the new funding model. While the funding method will change the fundamental knowledge gained in delivering two years of CDM programming has proven and will continue to prove invaluable as programs continue to be offered to residential, commercial and industrial customers across the province.

This combined report, in addition to meeting the regulatory requirement, provides a comprehensive summary to CHEC members of the impact of their combined effort.

## 2.0 CHEC Members:

The 2006 Annual Report on Conservation and Demand Management Activities of the following utilities are included in this report:

Centre Wellington Hydro Ltd.	COLLUS Power Corp
Grand Valley Energy Inc.	Innisfil Hydro
Lakefront Utilities Inc.	Lakeland Power Distribution
Midland Power Utility Corp.	Orangeville Hydro Ltd
Orillia Power Distribution Corp.	Parry Sound Power
Rideau St. Lawrence	Wasaga Distribution Inc.
Wellington North Power Inc.	West Coast Huron Energy Inc.
Westario Power	Woodstock Hydro Services

## 3.0 Evaluation of the CDM Plan:

**Total Portfolio:** The 16 CHEC members collectively undertook a total of 104 initiatives. These programs fell within three categories:

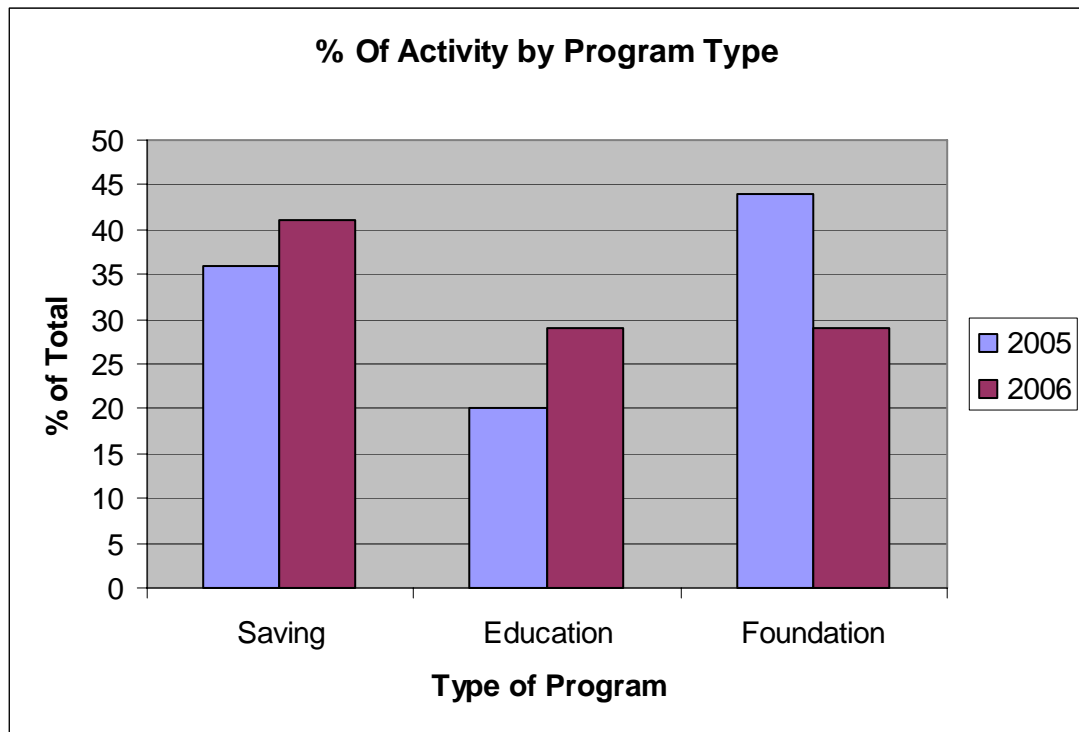
- Savings: Delivery of energy saving products or processes: coupons, rebates, free products, etc.
- Education: Providing general energy management information through such activities as: website development, workshops, brochures, etc,
- Foundation: Preparatory work for future programs that include: program research and development, energy audits, system studies, demonstration projects, partnerships, etc. This is a category that one might have expected to see reduced activity however it continues to be a major component.

The 2006 initiatives represent a total energy savings (lifecycle) of 129,330,000 kWh at a combined “Utility Cost” of \$1,185,000 or approximately 1 c/kWh. This low cost of energy saved was achieved while continuing the education and foundation building programs. To put the energy savings in perspective the 129 Million kWh represent the annual energy required by 10,700 homes (at 1000

kWh/month). Comparing this to incandescent bulbs the energy saved is equivalent to removing approximately 1.5 Million, 60 W incandescent bulbs operating 4 hours per day for a year.

Figure 1 illustrates the change in program makeup from 2005 to 2006. The percentage of programs focused on “saving” and “education” have increased while the number of foundation” programs have decreased. The reduced focus on “foundation” programs in the second year is to be expected as the program mature and initiatives move from planning to delivery thereby increasing the number of “savings” and ‘education’ initiatives. Many “foundation” programs continue into the third year and will form the basis for conservation activities beyond third tranche by both utilities and their partners.

Figure 1



While the Figure provides a general breakdown it should be noted that there are many education programs that are now incorporating savings into the deliverables. The ability to incorporate savings and education provides an immediate conservation benefit, a positive TRC for the program and sets the stage for continued customer interest in conservation in the future.

**Savings Programs:** Programs were initiated both at the local and provincial level. Key to the 2006 results was the active participation of CHEC members in the OPA Every Kilowatt Counts programs. These programs in many instances provided a “savings” and “education” program that members could support without depleting their third tranche funding.

On the local level savings programs focused on local partnerships and delivery channels. Projects like municipal traffic light conversion built on the existing relationship with the municipality, provided benefits to the entire community and once installed ensured that the technology would remain in place once the benefits of lower cost and maintenance were recognized.

The use of product incentives and give-a-ways continued to play a significant role in the local programming. Capitalizing on the ability to participate in local events the provision of energy efficient product was a direct method of demonstrating the technology to the customer.

System optimization projects continue to be included in the portfolio. Nine initiatives focused on either completing the studies associated with system optimization or the implementation of field changes. System optimization continues to be an area for potential savings.

**Education Programs:** LDC's started to see opportunities to partner with others to provide programs into the education system. CHEC members along with other utilities in the service territory of Boards of Education are funding the development of programs for delivery in the schools. During 2006 third party providers (in many instances not-for-profits) made approaches to members for support and delivery of programs. As the conservation culture continues to develop the resources to provide this type of education will most likely continue to increase. The third tranche funding and the LDCs interest in partnering have helped this process.

Members have also been active in supporting education programs for the commercial and industrial sector. The challenge to date has been evaluating the results of this training. In most cases the proof of success is mostly anecdotal where mention is made of actions taken as a result of the training without any firm data. For this reason most education initiatives in this sector do not show a positive TRC.

**Foundation Program:** Many of the "foundation" type programs underway during 2006 were aimed at providing information to partners for further action. The CHEC members have actively supported alternate energy initiatives with a number of projects specific to these types of initiatives. The support provided at this stage, on the local level, can be pivotal on the success of future activities by community based groups.

In 2005 the "foundation" programs included initiatives such as: system optimization studies, smart meter preparation, customer audits and demonstration projects. In 2006 the increase in "education" and "savings" programs in some instances were the results of the 2005 foundation work. 2005 work on system optimization was a critical precursor to the project implementation in 2006 (and

2007). In some instances the full studies will only be completed in 2007 with the impact of implementation only being taken beyond the third tranche time frame.

**Net TRC Results:** The net TRC result of the combined CHEC CDM activity for 2006 is \$3,800,000 up from \$500,000 in 2005. The increase in TRC indicates the development of the industry over the first year resulting in deliverables in the second year.

Part of the development of the CDM industry was the provincial EKC programs – a program that built on the experience gained from the 2005 program coordinated by Energyshop.com and subscribed by a number of CHEC members. The involvement of CHEC members in the EKC programs resulted in 86% of the TRC results for member LDCs. The benefits of combining local support in wider based programs are clearly demonstrated by the success of these programs.

#### **4.0 Discussion of Programs:**

The individual program discussions from each utility are included in the following sections of this report. These discussions provide the individual utility perspective on the programs as offered in their service territory. The complete Annual CDM Report for each utility is included in the appendices.

#### **5.0 Lessons Learned:**

**Application of TRC:** 2005 was the introduction to the TRC tool. While the tool can be used to evaluate programs to ensure a positive TRC result in many instances the 2006 programs were set prior to experience with the tool.

The principles of TRC are generally easy to understand: energy efficiency case vs base case. However the mechanics of determining the details of the evaluation can be quite complex depending on the application. CHEC members spent considerable time ensuring the assumptions and discounted costs were properly applied. In many instances the experience of one member was utilized to assist others within the group.

One of the greatest challenges with TRC remains the carryover of familiarity with its use. While the second year of applying the TRC was a bit more familiar the application is still a challenge as the use of the tool tends to occur in discreet measures (ie to do the Annual Report).

**Funding:** CHEC members in general have funds for continued programs in 2007 (with a few exceptions). With the advent of provincial programs the ability to stretch the third tranche funding has occurred. Hence the need for additional funding based on the LDCs plan can, to a large extent, be avoided until the LDCs Funding through the OPA is available.

**Partnerships and Sharing:** The ability to partner has increased in year two of the CDM Funding. Not-for-Profit Agencies, municipalities, local groups etc. have become aware of potential for partnering and have either approached members or have been very positive to LDC initiatives. It is anticipated that the ability to partner with a wide variety of groups within our communities should continue to grow. As such, it will be an important aspect of program delivery that the LDC community will need to broach with the OPA through 2008 and beyond.

The sharing of experience and insights by CHEC members is on-going. In 2006 CHEC members had the opportunity to participate in the development of the CDM industry structure for moving forward. The perspective brought by smaller participants helps to ensure the success of program delivery across the entire province in both large and small communities.

**Customer Readiness:** The results of the 2006 programs highlights that the conservation message is starting to be understood and that residential customers will take action.

In 2007 and beyond programs will need to reach beyond the compact fluorescent light to clearly demonstrate to customers that they have a wide variety of opportunities. There may be additional challenges to overcome to move these messages forward as the cost to implement and the payback may not be as favourable.

While programs have been successful with residential customers more work is required to make inroads into the commercial and industrial sector. These sectors continue to be difficult to get actively engaged. Future programs will need to take into account the customer's limited resources, long lead times, and provide demonstrated value of conservation to their business. Experience is showing that in this sector, the progression from initial discussion, to decision, to action is slow and methodical.

**Utility Resources:** Utilities continue to utilize internal resources for much of the CDM work as it is integrated into the systems of the LDC. CDM calls received, the manager's time to promote CDM, the accountant's time to record and report, are all functions immersed in the activities of existing positions. The ability to manage these requirements as the industry moves forward will need to be addressed by LDCs.

## 6.0 Conclusion:

The second year of CDM delivered a significant increase in the kWhs saved and continues to set the stage for on-going development of the CDM industry.

LDCs continue to support CDM and the involvement at the local level. CHEC members through their local programs, involvement in provincial programs and participation in the design of the industry continue to demonstrate their support for CDM, for the provincial initiative and their customers.

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