

# **The Need for an Overarching Energy Conservation and Efficiency Framework in Alberta**

Prepared by the  
Electrical Efficiency and Conservation Project Team  
for the  
Clean Air Strategic Alliance  
Board of Directors

**November 30, 2006**

## Acknowledgements

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The Electrical Efficiency and Conservation Project Team gratefully acknowledges the financial contribution of Alberta Environment in support of the team's work. A number of stakeholders also supported the team by hosting meetings and contributing valuable staff resources behind the scenes.

All members of the team were very committed to completing their task and the volunteer time and energy is very much appreciated.

## About CASA

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The Clean Air Strategic Alliance (CASA) is a non-profit association composed of stakeholders from three sectors – government, industry and non-government organizations such as health and environmental groups. All CASA groups and teams, including the board of directors, make decisions and recommendations by consensus. These recommendations are likely to be more innovative and longer lasting than those reached through traditional negotiation processes. CASA's vision is that the air will be odourless, tasteless, look clear and have no measurable short- or long-term adverse effects on people, animals or the environment.

More information about the electricity project is available online at

<http://www.casahome.org/electricity/finalreports.asp>.

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## Executive Summary and Recommendations

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The Electrical Efficiency and Conservation (ECE) Project Team has been working since January 2004 to achieve its goal of implementing the efficiency and conservation recommendations (65-68) found in the Electricity Project Team's report, with the aim of increasing electrical efficiency and expanding conservation efforts within the province (see Appendix B for the team's Terms of Reference). A significant item within these recommendations was to develop an energy efficiency target for the province. The team was also asked to identify the resources required to implement the various programs recommended to meet the provincial target.

Team members recognized that developing targets for all sectors of the economy would be a very lengthy and demanding task, so they focused at first on the residential sector. The team identified four programs with proven track records in improving efficiency within the residential sector. These programs were predicted to achieve a reduction in electricity use of 160-GWh annually (about 2% of estimated 2005 consumption) by 2010 through direct participation in formal consumer engagement programs. The cost of these programs was estimated to be \$40 million over five years.

The team was not able to achieve consensus on the residential recommendations, chiefly because government stakeholders did not have the ability to support a recommendation related to specific funding amounts due to a lack of overall direction on energy efficiency within the government.

Rather than make non-consensus recommendations, the team decided to work with the Government of Alberta to achieve success and changed its focus in order to overcome previous hurdles. The members of the team agreed that an overarching energy efficiency framework was needed within government in order to make progress on the team's tasks.

The following list of recommendations has been developed by the EEC team in order to establish an effective and much needed energy conservation and efficiency framework for Alberta. This list of recommendations has been refined over several months based on the work of the group, and discussions with industry, government and NGO stakeholders outside of the group.

### Recommendations

#	Recommendation
1	That the Government of Alberta develops an overarching Energy Conservation and Efficiency Framework for Alberta. The framework should be developed and implemented in a timely manner.
2	That the Energy Conservation and Efficiency Framework for Alberta: a) be designed to achieve the following outcomes: 1. Improved air quality; 2. Increase energy conservation and efficiency in all sectors within Alberta by stimulating efficient practices and technologies, in both the short and long term;

#	<b>Recommendation</b>
	<ul style="list-style-type: none"> <li>3. Stimulate economic development through increased expertise in energy conservation and efficiency; create resource and financial savings; enable consumers to manage energy costs; enhance competitiveness of the Alberta economy; and</li> <li>4. Gives consideration to the impact on energy markets.</li> <li>b) Recognizes the multiple benefits of energy efficiency;</li> <li>c) Include all uses of energy (i.e., electrical, heating and transportation); and</li> <li>d) Is aligned and consistent with other related provincial and federal government initiatives, policies, and visions.</li> </ul>
3	<p>CASA recommends that the Energy Conservation and Efficiency Framework for Alberta:</p> <ul style="list-style-type: none"> <li>1. Identify the ministry primarily responsible for its implementation and acknowledge the role and involvement of other organizations for implementation. The framework should engage all relevant provincial government departments and, as necessary, the federal government;</li> <li>2. Identify financing or funding mechanisms to carry out program implementation, or establish a process to do this;</li> <li>3. Assess existing and new tools and mechanisms needed for implementation;</li> <li>4. Lay out the process (timelines and actions) for development of subsequent energy efficiency and conservation policies or action plans;</li> <li>5. Provide flexibility in how the policy goals will be reached, and how efficiency and conservation programs will be implemented;</li> <li>6. Establish a diversity of approaches to promote conservation and efficiency, including a combination of education, awareness and engagement (building a culture of energy conservation and efficiency), removal of barriers, incentives, and regulations;</li> <li>7. Enable the establishment of partnerships to implement energy conservation and efficiency measures;</li> <li>8. Work within new and existing processes to establish standards and codes for minimum energy efficiency requirements, which are regularly reviewed; and</li> <li>9. Include information on social, environmental and economic benefits and costs.</li> </ul>
4	<p>CASA recommends that the Energy Conservation and Efficiency Framework for Alberta:</p> <ul style="list-style-type: none"> <li>1. Establish a baseline of information and data;</li> <li>2. Establish goals and targets for implementation;</li> <li>3. Establish mechanisms to assess progress;</li> <li>4. Establish regularly scheduled review dates for the framework; and</li> <li>5. Provide timely and comprehensive reports on progress to the public.</li> </ul>
5	<p>CASA recommends that the Government of Alberta ensure the Energy Conservation and Efficiency Framework for Alberta is developed and implemented collaboratively with stakeholders, striving for consensus within the process. The Government of Alberta will then need to initiate specific actions to implement the framework.</p>

#	<b>Recommendation</b>
	CASA recommends that the Government of Alberta ensures that the development of action plans pertaining to the framework is developed collaboratively with stakeholders, striving for consensus within the process.

The recommendations contained in this report are the final ones from the team on this topic, but the team is not asking to be disbanded, as the team feels that further discussion, and possibly work, is required to bring closure to and make recommendations regarding all of the team's objectives.

# 1 Background on the Electrical Efficiency and Conservation Project Team

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Early in 2002, then Minister of Environment, Hon. Lorne Taylor, asked CASA to develop an approach for managing air emissions from the electricity sector. CASA established a multi-stakeholder Electricity Project Team (EPT) to undertake this task.

Because of the potential for electrical conservation and efficiency to improve air quality and reduce greenhouse gas emissions, the EPT established the Energy Efficiency and Energy Conservation working group. Its mandate was to examine the issues of efficiency and conservation as they affect air quality and emissions from the electricity sector, and make recommendations on how these issues might be addressed.<sup>1</sup> As the working group notes in its report, there are a number of challenges related to implementing efficiency and conservation programs in Alberta:

- a) Some of the sectors that could make significant gains in efficiency are “disaggregated”; that is, there is no one organization that speaks for the sector. For example, many commercial buildings have absentee owners, such as out of province pension funds, and negotiating with these one by one would be complicated and expensive.
- b) Small to medium sized companies need resources and support in planning and implementing energy efficiency in their businesses. Companies that understand the financial implications are often more receptive to implementing energy efficiency programs.
- c) The transmission companies might be in a good position to address some of these issues. However, they have not been part of the discussions to date, and they should be engaged.
- d) Some long-term power contracts are for a specified amount of power and include penalties if the customer doesn’t use the amount of power in the contract (referred to as “take-or-pay” contracts). Retailers must purchase the power required to fulfill these contracts whether the power is used or not. This may be a strong economic disincentive for pursuing efficiency and conservation.
- e) The residential and small business sectors can be the most difficult places to get efficiency without price drivers or incentives.
- f) Experience has shown that significant increases in efficiency will require a combination of funding, education, capacity building among energy and building professionals, targets, regulatory support, and market transformation initiatives.
- g) Financial barriers can be significant, and energy efficiency and conservation work often requires more funding than is currently available.
- h) In landlord and tenant situations, the party who pays the electricity bills is often not the same one who makes the decisions about expenditures that would lead to less electricity use, such as the installation of energy efficient appliances.

During the EPT’s public consultations in 2003, Albertans expressed strong support for promoting efficiency and conservation to achieve the many benefits this approach offers. The

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<sup>1</sup> The *Report of the Energy Efficiency and Energy Conservation Working Group to the CASA Electricity Project Team* is available online at <http://casahome.org/electricity/finalreports.asp>.

EPT's final report in November 2003 contained four recommendations on energy efficiency and conservation (recommendations 65 to 68), one of which was to establish a multi-stakeholder process to continue work, particularly in relation to setting targets.<sup>2</sup> The CASA board accepted all of the recommendations, including that a new project team be established to address the outstanding issues. The Electrical Efficiency and Conservation Project Team was formed (see Appendix A for a list of members), and its terms of reference were approved in March 2004 by the CASA board (see Appendix B).

## 1.1 Goal and Objectives

The goal of the Electrical Efficiency and Conservation Project Team was to implement the efficiency and conservation recommendations (65-68) found in the EPT's report, with the aim of increasing electrical efficiency and expanding conservation efforts within the province. The team was also asked to identify the resources required to implement the various programs recommended.

To achieve its goal, the Electrical Efficiency and Conservation Project Team had the following objectives:

1. Develop efficiency measurement mechanisms for the electricity supply chain and set a numerical target for electrical energy efficiency.
2. Collect and develop credible information on electricity efficiency to support the proposed targets and programs.
3. Identify tools and mechanisms to implement the energy efficiency and energy conservation recommendations in the November 2003 report of the EPT to the CASA board.
4. Identify the costs, benefits, co-benefits, and barriers and assists to market penetration of electrical efficiency and conservation measures for all users of electricity.
5. Identify cost effective approaches and programs to develop electrical efficiency and energy conservation, including implementers and time frames.
6. Make recommendations to the CASA board.

## 1.2 Challenges and Outcomes

Initially, the team identified four key sectors for which targets should be developed: residential, industrial (which includes oil and gas; electricity production; and selected mining and manufacturing industries), commercial, and the MUSH sector (municipalities, universities, schools and hospitals). Small and medium-size enterprises, or SMEs, are part of the industrial as well as the commercial sector, and the team agreed that targets should be developed for both.

Members recognized that developing targets for all sectors would be a very lengthy and demanding task, so they focused at first on the residential sector, commissioning three reports as part of their research and data collection activities (see Appendix C). The team developed recommendations regarding opportunities to improve the efficiency in the residential sector. The opportunities (energy efficiency programs) were projected to result in reductions in

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<sup>2</sup> These recommendations appear as part of the team's terms of reference in Appendix B.



residential electricity consumption of approximately 2% with a projected program cost of about \$40-million over 5 years.

The team also faced a number of other challenges, in particular the need for direction and vision from the Government of Alberta in this area to guide the work of this team. Other challenges included:

- The difficulty in marshalling resources due to the disperse nature of electrical efficiency in general, and specifically, electricity providers, user groups, energy efficiency consultants and service delivery companies.
- The difficulty of focusing only on electricity conservation and efficiency.
- No clear leader(s) could be identified to champion conservation and efficiency initiatives.
- Typically, a government policy or some form of strategic direction is needed before targets can be set. In the absence of provincial government policy in this area, setting a target for each sector and obtaining stakeholder support to implement it is extremely difficult.

Rather than make non-consensus recommendations, the team preferred to work with the Government of Alberta to achieve success. Thus, the team changed its focus and broadened its scope, including discussing the option of proceeding in parallel to develop a policy report and sector reports. Members concluded that a clearer indication was needed from the Government of Alberta regarding its support for efficiency in general before the team spent time developing targets and programs for other sectors. The team agreed not to develop targets for the other sectors until a higher-level policy is agreed to by Government.

The recommendations contained in this report are the final ones from the team on this topic, but the team is not asking to be disbanded, as the team feels that further discussion, and possibly work, is required to bring closure to and make recommendations regarding all of the team's objectives.

## **2 The Need for an Overarching Energy Conservation and Efficiency Framework in Alberta**

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Increased energy conservation and efficiency means producing goods and services with less energy. Improving the productivity of energy consumption yields many benefits to Albertans, such as less damage to the environment, reduced costs to households and businesses and enhanced economic development. Recent reports indicate that energy efficiency and conservation measures have the potential to reduce energy demand (electricity, heating by 10 to 20% or more by 2025.<sup>3,4</sup>)

This would result in a reduction in energy costs across the entire Alberta economy.

Saving energy helps protect our environment. Generally speaking, consuming energy results in the release of pollutants and the disturbance of land, it exposes people to harmful materials, and it contributes to climate change. These impacts all create negative results for the health of local and global populations, but fortunately, can be lessened by using energy more efficiently.

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<sup>3</sup> Marbek Resource Consultants, MK Jaccard and Associates Inc. 2006. *Demand Side Management Potential in Canada*.

<sup>4</sup> Pembina Institute. 2006. *Successful Strategies for Energy Efficiency*.

The Alberta government has developed a twenty-year vision and Climate Change Action plan to manage and avoid environmental damage. Increasing energy efficiency supports many of the actions in the Vision and Action Plan, including a goal for Albertans to be North American leaders in using energy efficiently<sup>5</sup>.

Another of the direct benefits of improved energy conservation and efficiency is more money for Alberta's citizens and businesses. Fluctuations in energy prices have reminded everyone of the cost of running homes and businesses. Although purchasing more energy efficient equipment can initially cost more than less efficient choices, savings on energy bills are often two to three times the extra capital cost. Some energy efficient appliances or practices are less expensive than the alternatives, and save on energy bills. In addition to direct savings, increased energy efficiency also reduces budget uncertainty from fluctuating energy prices. Increased energy costs can adversely affect a household's budget particularly those who are on low or fixed incomes. Improved energy conservation and efficiency leads to lower energy bills and smaller budget impacts.

Albertans can also benefit from increased revenue to the province from additional exports of energy. Lowering energy consumption throughout the province means that any excess electricity or natural gas could potentially be sold to other provinces or the US. Albertans might also decide to save this energy for future needs, but energy efficiency improvements allow this choice to be made.

Increased energy efficiency also has important impacts on economic development, including the creation of jobs. Employment opportunities resulting from increased demands in energy efficient building construction and retrofits (e.g., installation of insulation and energy-efficient windows) can be located where people live and work thus reducing the need to relocate people and goods. Savings from lower energy bills can also contribute to community economic growth, since individuals have more money to invest in products and services other than energy.

Other economic development benefits of encouraging energy conservation and efficiency include developing a competitive edge in a growing industry and helping to maintain a reliable energy supply structure. With many other governments and businesses looking at ways to reduce energy bills, potential opportunities for more energy efficient products and services are growing. Alberta has the chance to develop energy efficiency businesses here that can be exported to other regions. Improved energy efficiency can lead to a more reliable energy supply system by mitigating periods of high demand. Building an energy system to meet the peaks is often expensive or has the potential for power shortages. By lowering the peaks in energy demand, increased energy efficiency helps develop a lower cost and more efficient system, which can encourage businesses to set up locations in Alberta.

Many studies have shown a significant potential for gains in energy efficiency in Canada,<sup>6</sup> but harnessing the potential is challenging. Some of the many diverse challenges to improved energy efficiency, which are often referred to as market barriers, include the following:

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<sup>5</sup> Government of Alberta. 2002. *Albertans & Climate Change: Taking Action*.

<sup>6</sup> Recent studies include the following: National Round Table on the Environment and the Economy. 2006. *Advice on a long term strategy on energy and climate change*; Torrie, Ralph. 2002. *Kyoto and beyond: The low emission path to innovation and efficiency*; Polestar Communications. 2003. *BC Hydro Conservation*

- Achieving gains in energy conservation and efficiency requires organizations and individuals to work together; these might include traditional energy suppliers such as utilities, regulators, builders, developers, government (federal, provincial, municipal and First Nations), equipment suppliers (wholesale and retail), equipment purchasers (businesses, home owners and renters). Ideally these parties can work together, but in reality they often have conflicting goals that limit energy conservation and efficiency improvements.
- There is no single approach to energy conservation and efficiency. The potential application of energy conservation and efficiency requires a diversity of approaches applied over a long period of time.
- Individuals and businesses may not have time or resources to find out about energy conservation and efficiency options. This lack of information could pertain to available technologies, the amount of expected savings, or the reliability of the service of an innovative product.
- Individuals and businesses that have information on energy efficiency options may still purchase inefficient options because they don't have the money available (due to limited budgets or fiscal policies of the company) to cover any incremental initial costs or because the energy efficiency option is not available in their market area.

Many other governments have also recognized the benefits of energy efficiency, and have placed a high degree of importance on using it as a resource to be tapped into. Ontario, for example, has recently established a directive to reduce peak electricity demand by 6300 MW by the year 2025, which is more than half of the current size of Alberta's entire electricity grid. Many jurisdictions around the world, such as the UK and several US states, have also formally identified conservation and efficiency as the first choice for meeting new energy demand.

In order to make notable improvements in conservation and efficiency within the province, Alberta needs to demonstrate leadership in overcoming the barriers to energy conservation and efficiency. An overarching energy conservation and efficiency framework for the province is an important step to maximize the multiple benefits of energy conservation and efficiency in a faster and more efficient manner. An overarching framework will provide guidance in addressing the barriers to energy conservation and efficiency in a coordinated, efficient and effective manner.

### 3 Recommendations

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#### **Recommendation 1: Need for a Framework**

It is recommended that the Government of Alberta develop an overarching Energy Conservation and Efficiency Framework for Alberta.

To encourage energy conservation and efficiency in Alberta the Framework would propose a combination of tools and approaches that may include regulatory mechanisms, education and outreach, coordinated industry approaches and economic instruments. It should be noted that

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*potential review 2002, Summary report. Submitted to BC Hydro; Marbek Resource Consultants, Habart and Associates Innes Hood Consulting, 2006. Terasen Gas Conservation potential review; Winfield, Mark, Matt Horne, Roger Peters, Theresa McClenaghan. 2004. Power for the future: Towards a sustainable electricity system for Ontario. Pembina Institute.*

the development of these potential actions need to consider the rest of the recommendations made within this report. In particular, any regulatory mechanisms should be developed in consultation with stakeholders and not adversely impact the operations of energy markets.

The framework should be developed and implemented in a timely manner.

### **Recommendation 2: Framework Objectives**

It is recommended that the Energy Conservation and Efficiency Framework for Alberta:

- a) be designed to achieve the following outcomes:
  1. Improved air quality;
  2. Increase energy conservation and efficiency in all sectors within Alberta by stimulating efficient practices and technologies, in both the short and long term;
  3. Stimulates economic development through increased energy conservation and efficiency expertise; creates resource and financial savings; enables consumers to manage energy costs; enhances competitiveness of the Alberta economy; and
  4. Gives consideration to the impact on energy markets.
- b) Recognizes the multiple benefits of energy efficiency;
- c) Includes all uses of energy (i.e., electrical, heating and transportation); and
- d) Is aligned and consistent with other related provincial and federal government initiatives, policies, and visions.

### **Recommendation 3: Framework Components**

CASA recommends that the Energy Conservation and Efficiency Framework for Alberta:

1. Identify the ministry primarily responsible for its implementation and acknowledge the role and involvement of other organizations for implementation. The framework should engage all relevant provincial government departments and, as necessary, the federal government;
2. Identify financing or funding mechanisms to carry out program implementation, or establish a process to do this;
3. Assess existing and new tools and mechanisms needed for implementation;
4. Lay out the process (timelines and actions) for development of subsequent energy conservation and efficiency policies or action plans;
5. Provide flexibility in how the policy goals will be reached, and how conservation and efficiency programs will be implemented;
6. Establish a diversity of approaches to promoting conservation and efficiency, including a combination of education, awareness and engagement (building a culture of efficiency and conservation), removal of barriers, incentives, and regulations;
7. Enable the establishment of partnerships to implement energy conservation and efficiency measures;
8. Work within new and existing processes to establish standards and codes for minimum energy efficiency requirements, which are regularly reviewed; and
9. Include information on social, environmental and economic benefits and costs.

### **Recommendation 4: Framework Measurement, Reporting and Evaluation**

CASA recommends that the Energy Conservation and Efficiency Framework for Alberta:

1. Establish a baseline of information and data;
2. Establish goals and targets for implementation;

3. Establish mechanisms to assess progress;
4. Establish regularly scheduled review dates for the framework; and
5. Provide timely and comprehensive reports on progress to the public.

**Recommendation 5: Stakeholder Process**

CASA recommends that the Government of Alberta ensure the Energy Conservation and Efficiency Framework for Alberta is developed collaboratively with stakeholders, striving for consensus within the process.

The Government of Alberta will then need to initiate specific actions to implement the framework. CASA recommends that the Government of Alberta ensures that the development of action plans pertaining to the framework is developed collaboratively with stakeholders, striving for consensus within the process.

## Appendix A: Members of the Electrical Efficiency and Conservation Project Team

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Denise Chang-Yen	EPCOR
Raynald Charest	Natural Resources Canada
Frans Diepenstraten	Stantec
Kathy Watson	Canadian Home Builders Association
Simon Knight	Climate Change Central
Bevan Laing	Alberta Energy
Kevin McLeod	CASA
Jesse Row	Pembina Institute
Brian Mitchell	Mewassin Community Action Council
Brian Waddell/Robyn Kuhn	Alberta Environment

### Former Team Members

Darren Aldous	AUMA
Kerra Chomlak	CASA
Keith Denman	CASA
Zahir Karmali	Direct Energy
Phyllis Kobasiuk	AAMDC
Glenn McIntyre	Direct Energy
Rob Schnell	Direct Energy
Halyna Tataryn	Canada Housing and Mortgage Corporation
Kevin Gunn	SAIT/EnerVision
Nashina Shariff	Toxics Watch

## Appendix B: Terms of Reference

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Date: February 23, 2004

### **Background:**

In the Alberta government's Climate Change Action Plan energy efficiency and conservation are identified as two of the means by which the province will reduce its green house gas emissions. The CASA Electricity Project Team (EPT) established the Energy Efficiency and Energy Conservation working group to examine the potential for Electrical efficiency and conservation to contribute to improved air quality in Alberta. Its mandate was to examine the issues of efficiency and conservation as they affect air quality and emissions from the electricity sector, and to make recommendations on how these issues might be addressed. A key recommendation from the working group is that a multi-stakeholder team be formed to explore these issues in more detail and to address other recommendations found in the October 2003 Report of the Energy Efficiency and Conservation Working Group to the CASA Electricity Project Team. This group is being formed in response to those recommendations.

The Alberta government has also tasked Climate Change Central's Energy Solutions Alberta with delivering programs to reduce energy usage in the province. Climate Change Central has been at the table throughout the work of the sub-group and is a member of the proposed project team. It is the understanding of both Climate Change Central and the CASA Electrical Efficiency and Conservation group that the work of these two groups will not overlap but will be a valuable partnership between strategic direction and program delivery.

### **Goal:**

The overall goal of the Electrical Efficiency and Conservation Project Team is to implement the energy efficiency and conservation recommendations (#s 65 – 68) found within the November 2003 report of the Electricity Project Team to the CASA Board, with the aim of increasing electricity efficiency and expanding conservation efforts within the province. This work will include identifying the resources required to implement the various programs recommended.

### **Objectives:**

In order to achieve its goal, the Electrical Efficiency and Conservation Project Team will accomplish the following objectives:

1. Develop efficiency measurement mechanisms for the electricity supply chain and set a numerical target for electrical energy efficiency.
2. Collect and develop credible information on electricity efficiency to support the proposed targets and programs.
3. Identify tools and mechanisms to implement the energy efficiency and energy conservation recommendations in the November 2003 report of the EPT to the CASA Board.
4. Identify the costs, benefits, co-benefits, and barriers and assists to market penetration of electrical efficiency and conservation measures for all users of electricity.

5. Identify cost effective approaches and programs to develop electrical efficiency and energy conservation, including implementers and time frames.
6. Make recommendations to the CASA Board.

### **Key Task Areas:**

The tasks set before this group break down into the following areas:

#### **1. Data Collection**

- a. Determine the data that is currently available from various sources on Alberta's electrical system's efficiency
- b. Determine the measurement needs of a proposed efficiency target, including the level of dis-aggregation and aggregation that is feasible and appropriate
- c. Collect the needed data for setting targets and determining program needs.

#### **2. Measurement**

- a. Work with Climate Change Central's Energy Solutions Alberta, relevant Alberta government agencies and existing data centers to develop measurement tools and to monitor overall electrical energy efficiency for the province.
- b. Develop a process to determine the overall efficiency of the Alberta electrical system, "energy source to end user."

#### **3. Targets**

- a. Based on the measurement work outlined above, undertake a detailed technical assessment as to the feasibility of developing a province-wide electric energy efficiency target and, if feasible, define what the target amount should be (including appropriate metrics) and costs to meet the target, its relationship to sector agreements and other ongoing programs, and mechanisms to meet this target.

#### **4. Tools and Programs**

- a. Reviewing electrical energy efficiency and conservation tools and programs and making recommendations for their implementation, including pilot projects through appropriate organizations.
- b. Determine which sectors of the electrical system will be focused on in the work of this project team.
- c. Working with retailers and the "wires" companies to ensure that "time of use" metering and rates are made available where they are not available currently.
- d. Seeking ways in which the purchase of ENERGY STAR™ appliances can be encouraged.
- e. Work with electricity retailers to find ways to assist retailers in managing the risks and recovering lost revenues associated with energy efficiency and energy conservation programs. This could involve but would not be limited to performance-based incentive mechanisms that reward the achievement of targeted energy savings and program costs.
- f. Examine the issue of thermal loss at generation facilities, and explore means of encouraging the co-location of other facilities that are able to use waste heat. This could include the use of emission credits and offsets for the use of this energy.
- g. Work with Alberta Energy, Alberta Environment, NewEra, and the Alberta Electric System Operator with the goal of ensuring that the metering and transmission interconnection needs of distributed generation are met.



- h. Work with Alberta Environment and other CASA groups with the goal of ensuring that verifiable improvements in energy efficiency and energy conservation are classified as useable offsets.
- i. Work with the federal government to examine tax issues relating to energy efficiency and conservation, such as district heating, in order that energy efficiency and conservation not be disadvantaged relative to other energy policies and programs.

#### **4) Reporting**

- a. Preparing a final report and recommendations to the CASA Board covering the goals and objectives set out above
- b. Preparing and implementing a plan to communicate to CASA stakeholders and other potentially interested people the results of the team's work.

#### ***Timelines:***

It is expected that the Energy Efficiency and Energy Conservation Project Team will report to the CASA Board in November 2004.

#### ***Budget:***

The financial needs and available resources of this project team are unknown at this time, although it is anticipated that some of this work will involve the hiring of consultants to perform some of the background studies that the team's work will be based on. It is anticipated that there will be some funding available from Alberta Environment to be shared between this group and the Renewable and Alternative Energy Project Team, and also that the remaining funding from the EPT will be made available to these two groups. Fundraising for this work beyond the available monies, if required, will be one of the tasks for this group.

#### ***Membership:***

- Electricity Industry:
  - "Wires" companies
  - Retailers
  - Energy Service Companies
  - Generators
- ENGOS
- Alberta Environment
- Alberta Energy
- Municipalities
- Small Business Association
- Consumer groups
- Federal Government
  - Natural Resources Canada
- Climate Change Central/Energy Solutions Alberta
- Canadian Association of Petroleum Producers
- Canadian Petroleum Products Institute
- Alberta Electricity System Operator
- Canadian Industry Program for Energy Conservation (CIPEC)
- The Alberta Energy and Utilities Board

EPT Energy Efficiency and Energy Conservation Recommendations

65	<p><b>Energy Efficiency and Conservation Implementation Team</b>  A CASA multi-stakeholder implementation team be struck and provided with sufficient funds to undertake the following tasks, and that it report to the CASA board in November 2004:</p> <ol style="list-style-type: none"> <li>a) Working with Climate Change Central's Energy Solutions Alberta, relevant Alberta government agencies and existing data centres in developing measurement tools and monitoring overall electrical energy efficiency for the province.</li> <li>b) Developing a process to determine the overall efficiency of the electrical system, "energy source to end user."</li> <li>c) Once tasks a) and b) are completed, the implementation team will undertake a detailed technical assessment as to the feasibility of developing a province-wide electric energy efficiency target and, if feasible, define what the target amount should be (including appropriate metrics) and costs to meet the target, its relationship to sector agreements and other ongoing programs, and mechanisms to meet this target.</li> <li>d) Reviewing electrical energy efficiency and conservation tools and programs and making recommendations for their implementation, including implementation of a pilot project.</li> <li>e) Working with retailers and the "wires" companies to ensure that "time of use" metering and rates are made available where they are not available currently.</li> <li>f) Seeking ways in which the purchase of ENERGY STAR™ appliances can be encouraged and incented.</li> <li>g) Working with electricity retailers to find ways of assisting retailers in managing the risks and recovering lost revenues associated with energy efficiency and energy conservation programs. This could involve but would not be limited to performance-based incentive mechanisms that reward the achievement of targeted energy savings and program costs.</li> <li>h) Examining the issue of thermal loss at generation facilities, and exploring means of encouraging and incenting the co-location of other facilities that are able to use waste heat. This could include the use of emission credits and offsets for the use of this energy.</li> <li>i) Working with Alberta Energy, Alberta Environment, New Era, and the Alberta Electric System Operator with the goal of ensuring that the metering and transmission interconnection needs of distributed generation are met.</li> <li>j) Working with Alberta Environment with the goal of ensuring that verifiable improvements in energy efficiency and energy conservation are classified as useable offsets.</li> <li>k) Working with the federal government with the goal of examining the tax issues relating to district heating and other energy efficiency and conservation issues, in order that energy efficiency and conservation not be disadvantaged relative to other energy policies and programs.</li> </ol>
66	<p><b>Encouraging Electrical Energy Efficiency and Conservation by Industry</b>  The Alberta government, in its upcoming greenhouse gas sectoral agreements with all sectors, consider including and encouraging electrical energy efficiency and energy conservation as options for reducing emissions from electricity generation in Alberta.</p>
67	<p><b>Encouraging Electrical Energy Efficiency and Conservation by Governments</b>  Climate Change Central</p> <ul style="list-style-type: none"> <li>• work with Alberta and municipal governments to encourage energy efficiency in residential housing design, both in building codes and in municipal planning.</li> <li>• examine the issue of "take or pay" contracts. This work would include: <ul style="list-style-type: none"> <li>o gathering information on the extent of the issue;</li> <li>o providing information for consumers to assist them in making informed decisions about their electricity purchases; and</li> <li>o developing and piloting alternatives that would meet the retailer's needs while allowing for consumers to benefit fully from energy efficiency and conservation practices.</li> </ul> </li> <li>• provide a resource in which information about the various government programs all levels and funding options be made available.</li> </ul>
68	<p><b>Funding Energy Efficiency and Conservation Programs</b>  The Alberta and federal governments consider means for providing stable and sufficient funding to allow for the development and implementation of energy efficiency and energy conservation programs, and that the various options for funding described in the Energy Efficiency and Conservation Working Group's report to the EPT be considered.</p>

## Appendix C: Background Reports

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The following reports were commissioned by the Electrical Efficiency and Conservation Project Team and are available online at

[http://www.casahome.org/casa\\_library/bygroup.asp?idnumber=66](http://www.casahome.org/casa_library/bygroup.asp?idnumber=66).

*Study on the Electrical Efficiency of Alberta's Economic Sectors*, prepared by Canadian Energy Research Institute, September 2004

*A Study on the Efficiency of Alberta's Electrical Supply System*, prepared by JEM Energy and Associates, October 2004

*Residential Electrical Efficiency Data Review*, prepared by the Pembina Institute, June 2005.