

GFC Academic Planning Committee (APC)

Approved Motions

The following Motions and attendant Final Documents were approved by the GFC Academic Planning Committee (APC) at the meeting of Wednesday, January 26, 2011:

Agenda Title: **Dissolution of the Faculty of Business' Cultural Industries Research Centre (CIRC)**

Motion: THAT the GFC Academic Planning Committee approve, under delegated authority from General Faculties Council, the proposed termination of the Alberta School of Business' existing Cultural Industries Research Centre (CIRC), as requested by the Dean of the School of Business (set forth in Attachment 1), to take effect immediately.

Final Approved Document: [Item 4](#)

Agenda Title: **Proposal for the Establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC)**

Motion: THAT the GFC Academic Planning Committee approve, under delegated authority from General Faculties Council, the proposal submitted by the Faculty of Arts for the formal establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC) (to be housed primarily in the Department of Economics (Faculty of Arts) at the University of Alberta), as set forth in Attachment 1, effective upon approval by GFC APC.

Final Approved Document: [Item 5](#)

OUTLINE OF ISSUE

Agenda Title: **Dissolution of the Faculty of Business' Cultural Industries Research Centre (CIRC)**

Motion: THAT the GFC Academic Planning Committee approve, under delegated authority from General Faculties Council, the proposed termination of the Alberta School of Business' existing Cultural Industries Research Centre (CIRC), as requested by the Dean of the School of Business (set forth in Attachment 1), to take effect immediately.

Item

Action Requested	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Recommendation <input type="checkbox"/> Discussion/Advice <input type="checkbox"/> Information
Proposed by	Mike Percy, Dean, Alberta School of Business
Presenter	Tom Scott, Vice-Dean, Alberta School of Business
Subject	School of Business Centres – Termination of the Existing Cultural Industries Research Centre (CIRC)

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	To close down an academic centre in the School of Business that has ceased to function.
The Impact of the Proposal is	To eliminate a defunct academic centre from official recognition.
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	To take effect immediately.
Estimated Cost	None.
Sources of Funding	N/A
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	Business Plan (School of Business)
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please quote legislation and include identifying section numbers)	<p>UAPPOL Academic Centres and Institutes Termination Procedure:</p> <p>"2. TERMINATION</p> <p>Termination of academic centres and institutes shall occur by one of two means:</p> <ul style="list-style-type: none"> - by resolution of APC on the recommendation of the Centre/Institute or the University Administration; - by lack of submission of annual reports for a period of two consecutive years. In such cases, the University Administration shall inform APC of the relevant unit's inactivity and notice of closure. <p>Termination plans must include details of any financial encumbrances, physical resources, or effect on teaching or other dissemination obligations.</p> <p>The termination of an academic centre or institute must be included in APC's annual report to General Faculties Council."</p>



Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	Reviewed by the Alberta School of Business and the Department of Marketing, Economics and Law; and the Office of the Provost and Vice-President (Academic)'s Centres and Institutes Committee (CIC)
Approval Route (Governance) (including meeting dates)	GFC Academic Planning Committee (January 26, 2011) – for final approval
Final Approver	GFC Academic Planning Committee

Attachments (each to be numbered 1 - <>)

1. Attachment 1 (page 1): Correspondence from the Dean of the Alberta School of Business Regarding the Closure of the School's Existing Cultural Industries Research Centre

Prepared by: Thomas Scott, Vice-Dean, School of Business



INTERNAL
MEMORANDUM

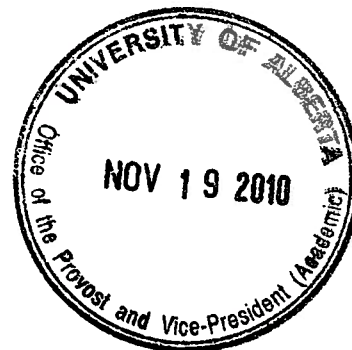
Date: 15 November 2010
To: Carl Amrhein
Chair GFC, Academic Planning Committee
From: Mike Percy
Dean, School of Business
Subject: Cultural Industries Research Centre

A handwritten signature in blue ink, likely belonging to Mike Percy, the Dean of the School of Business.

This is a request to close the Cultural Industries Research Centre. Over the years, activities in this centre diminished, the academic director retired, and there is no link to the School's strategic initiatives.

We also confirm that there are no funds or equipment to be dispersed from this Centre.

cc A. Finn, Chair Department of Marketing, Business Economics & Law



OUTLINE OF ISSUE

Agenda Title: **Proposal for the Establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC)**

Motion: THAT the GFC Academic Planning Committee approve, under delegated authority from General Faculties Council, the proposal submitted by the Faculty of Arts for the formal establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC) (to be housed primarily in the Department of Economics (Faculty of Arts) at the University of Alberta), as set forth in Attachment 1, effective upon approval by GFC APC.

Item

Action Requested	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Recommendation <input type="checkbox"/> Discussion/Advice <input type="checkbox"/> Information
Proposed by	David Ryan, Professor, Department of Economics
Presenter	André Plourde, Associate Dean (Research), Faculty of Arts, and Professor, Department of Economics
Subject	Establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC)

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	The formal establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC), to be housed at the University of Alberta primarily in the Department of Economics (Faculty of Arts).
The Impact of the Proposal is	The founding of a research centre that would provide financial support to student research assistants involved in CBEEDAC's research program. The Centre would also bring together a number of faculty members (especially from the Department of Economics) who share research interests in energy economics and policy, and in the interface between energy and the environment. CBEEDAC would also be a centre of expertise on data relating to energy use in the commercial, institutional, and residential sectors (these sectors are sometimes identified jointly as "the built environment").
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	Effective upon final approval by GFC APC.
Estimated Cost	The Department of Economics will provide space for the Centre: two offices – one for the Executive Director and one for student researchers.
Sources of Funding	The key source of funding is Natural Resources Canada.
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	<i>Dare to Discover, Dare to Deliver</i>
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please quote legislation and include identifying section numbers)	1. Post-Secondary Learning Act (PSLA): The <i>Post-Secondary Learning Act (PSLA)</i> gives General Faculties Council (GFC) responsibility, subject to the authority of the Board of Governors, over "academic affairs" (section 26(1)). Section 26(1)(o) provides that GFC may make recommendations to the Board of Governors on a number of matters, including "the budget" and "academic planning." GFC has thus established an Academic Planning Committee (GFC APC), as set out

	<p>below. GFC delegates certain of its powers to the GFC Academic Planning Committee.</p> <p>The complete wording of the section(s) of the <i>PSLA</i>, as referred to above, and any other related sections, should be checked in any instance where formal jurisdiction or delegation needs to be determined.</p> <p>2. University of Alberta Policies and Procedures On-Line (UAPPOL): According to the University of Alberta's <i>Academic Centres and Institutes Establishment Procedure</i> (Section 2 – <u>Establishment</u>) (available at: www.uappol.ualberta.ca): “All proposals for establishment of academic centres and institutes shall be submitted initially to the Provost and Vice-President (Academic). The Strategic Initiatives Group (SIG) shall review operational details (e.g. budget, space) for the proposed centre or institute and suggest revisions or recommend clarification as needed. Proposals deemed to be in good order will be forwarded by the proposer(s) to the GFC Academic Planning Committee (APC) for final approval.”</p>
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Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	The proposal went through Faculty of Arts governance in the Spring of 2009, culminating with its consideration by the “Dean’s Office Group” on June 2 of that year. Feedback was provided and approval to proceed to University governance was granted. The proposal was modified in light of the feedback received at this stage. (A letter of support from the Faculty of Arts is included in the documentation provided.) The Centres and Institutes Committee (CIC) considered the proposal on June 23, 2009. It was then forwarded to the Strategic Initiatives Group (SIG) for consideration at its meeting of September 1, 2009. Feedback was provided and the proposal was approved for consideration by GFC APC. The documentation provided here incorporates modifications suggested by SIG.
Approval Route (Governance) (including meeting dates)	GFC Academic Planning Committee (January 26, 2011)
Final Approver	GFC Academic Planning Committee

Attachments (each to be numbered 1 - <>):

- Attachment 1: Proposal to Recognize the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC) as an Academic Centre at the University of Alberta) (pages 1 – 58)

Prepared by: André Plourde, Associate Dean (Research), Faculty of Arts, and Professor, Department of Economics, andre.plourde@ualberta.ca (with assistance from University Governance)



C A N A D I A N
Building Energy End-Use
DATA AND ANALYSIS CENTRE
commercial • residential • institutional

Proposal to Recognize the

CANADIAN BUILDING ENERGY END-USE DATA AND ANALYSIS CENTRE
(CBEEDAC)

as an Academic Centre at the University of Alberta

Sponsored by:

DEPARTMENT OF ECONOMICS – UNIVERSITY OF ALBERTA

in association with

NATURAL RESOURCES CANADA

October 2010

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1 OVERVIEW

1.1 *Background*

On October 29, 1991, Natural Resources Canada (NRCan), a federal government department specializing in the sustainable development and use of natural resources, energy, minerals and metals, forests and earth sciences, announced the creation of an initiative aimed at improving the state of knowledge on energy use in Canada: the National Energy Use Database. This initiative was designed to expand and improve existing knowledge about energy consumption and efficiency at the end-use level by establishing processes for the regular and timely collection of Canada-wide reliable data on energy consumption, on the characteristics of energy-using equipment and buildings, and on the behaviour and attitudes of Canadian consumers with respect to energy use and the adoption of energy-efficient technologies.

One element of this initiative was the creation of Database and Analysis Centres (DACs) for individual energy consuming sectors to improve the accessibility, knowledge and compatibility of relevant data. Specifically, separate centres were set up for the industrial sector, the agricultural sector, the transportation sector, the residential sector, and the commercial sector. In 2001, NRCan decided to amalgamate the DACs for the residential and commercial sectors into a single DAC for the buildings sector. This centre, which NRCan referred to as the *Canadian Building Energy End-Use Data and Analysis Centre* (CBEEDAC, pronounced “cee-bee-dac”), was – according to NRCan – to be responsible for improving knowledge and accessibility of end-use data for the Canadian residential, commercial, and institutional sector, and for evaluating the impact of this sector on energy consumption and environmental quality. Specifically, CBEEDAC was to operate as part clearinghouse, part depository, and part analysis group for residential and commercial energy-related data from Canada as well as from other countries, where applicable. Following a nationwide competition, which included written proposals and site visits, NRCan announced in 2002 that CBEEDAC would be established at the University of Alberta. The initial proposal from the University of Alberta involved researchers in the Department of Economics and the School of Business, although personnel changes since that time have meant that CBEEDAC operates primarily in the Department of Economics. However, as noted in a letter of support from the Dean of the School of Business included in Appendix 3, the School of Business retains close ties to CBEEDAC, both directly, with Professor Joseph Doucet from the Business School appointed as one of the Associate Directors of CBEEDAC, and indirectly through links, including a co-sponsored internal Applied Energy workshop series, with CABREE (the Centre for Applied Business Research in Energy and the Environment), headed by Professor Doucet, as well as with the School of Energy and the Environment (SEE).

From the point of view of NRCan, CBEEDAC has been a Centre since its initial establishment in 2002 at the University of Alberta. In conjunction with the remaining two centres: CIEEDAC (the *Canadian Industrial Energy End-Use Data and Analysis Centre*, established at Simon Fraser University) and CDAT (the *Centre for Data and Analysis in Transportation*, established at Université Laval), CBEEDAC comprises one of three DACs that are currently supported by NRCan through a series of Contribution Agreements (CAs). (Initially, these CAs were negotiated annually. More recently, NRCan has initiated a move to three-year CAs, as explained

in Section 4 below.) These CAs are agreements between NRCan and each of the DACs that specify the nature of their relationship, the amount of financial support granted, the conditions that are attached to it, and other issues such as the rights and responsibilities of both parties. A copy of the CA for 2009-2012 is provided in Appendix 4. As can be seen from the names of the DACs, all include the word “Centre” in their title. When CBEEDAC was initially founded at the University of Alberta, enquiries were made concerning its establishment as an official university centre, but at that time it was felt that with no track record and only an initial one-year CA, this would be premature. However, CBEEDAC has now operated continuously at the University of Alberta since March 2002, receiving annual funding from NRCan during that period, and also attracting occasional funding from other sources. At NRCan’s request, CBEEDAC (along with the other DACs) has also undergone a routine audit by Audits Canada. Since CBEEDAC’s inception, researchers associated with the Centre have completed numerous research projects and in many cases have presented their research in national and international venues. In addition, CBEEDAC issues three newsletters each year, has a website where access to energy database information is available, and fields a number of enquiries each year from researchers, members of the business community, and various levels of government concerning issues pertaining to energy use in buildings. Essentially, CBEEDAC has established a reputation as a reliable authoritative source of information and empirical policy-relevant analysis concerning energy end use in the buildings sector, and it now is appropriate to have CBEEDAC formally established as a centre at the University of Alberta.

Thus, with this proposal, CBEEDAC is seeking formal approval from the University of Alberta to comply with the UAPPOL Policy on Centres and Institutes. CBEEDAC wishes to be recognized as an *academic centre* at the University of Alberta to better reflect its scope and activities, to keep its designation consistent with the other Database and Analysis Centres funded by NRCan, and as part of a strategy to increase public exposure and attract new sponsors, and thus expand its activities.

This process has been initiated by the current Director of CBEEDAC, David Ryan, with the consultation of stakeholders and partners, including the Chair of the Economics Department, NRCan, the School of Business, and other interested external parties. Letters of support are provided in Appendix 3 to this document. This proposal is sponsored by the Department of Economics at the University of Alberta, which will be the home department for the proposed centre.

1.2 Purpose

Primarily, the proposed centre would be based on the rationale that motivated NRCan to support its initial establishment in 2002. Specifically, the primary objective of the proposed Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC) is to preserve and improve the accessibility and compatibility of existing databases on commercial, residential and institutional sector energy use, as well as to conduct expert analysis using these data. Specifically, CBEEDAC is responsible for improving knowledge and accessibility of end-use data for the Canadian residential, commercial, and institutional sector, and for evaluating the impact of this sector on overall energy consumption and the associated implications for environmental quality.

Thus, CBEEDAC will operate as part clearinghouse, part depository, and part analysis group for residential, commercial and institutional data from Canada as well as from other countries where applicable.

To this end, CBEEDAC will seek to collect energy-related data from available sources at various levels of disaggregation, and to provide the data (where permitted and practicable) or information about or analysis based on the data to interested users, including modellers, policy analysts, technology experts and other researchers. To improve the effectiveness and usefulness of existing and new energy use surveys and associated databases, CBEEDAC will assess the quality of and information gaps associated with existing data, and provide guidance on how future data collection efforts might be designed. CBEEDAC will also conduct empirical analyses using the assembled data to examine issues pertaining to energy end-use in the buildings sector, broadly defined, and will also investigate related methodological issues. The results of these analyses will be circulated broadly, including via newsletters, a website, presentations at local, national, and international workshops and conferences, as well as through submissions to peer-reviewed journals and other publishing venues.

The research activities of the Centre focus on three main areas:

- Obtaining a better understanding of the factors affecting energy use in (various components of) the buildings sector;
- Assessing energy efficiency and the potential for energy efficiency gains in this sector; and
- Examining the consequences of energy use and energy efficiency for greenhouse gas emissions by the residential, commercial and institutional sectors.

In addition, an important aim of the proposed Centre is to work toward capacity building through training the next generation of researchers. The development and advancement of the understanding of energy use and efficiency requires long-term development of intellectual capital. The Centre is both committed to and capable of providing excellent supervision and instruction at the graduate level to develop skilled researchers in the area of energy end use in the buildings sector.

1.3 Proposed activities

Each year, CBEEDAC will undertake a set of data-specific projects as well as methodological projects, including projects that are agreed upon in consultation with its sponsors.

In addition to these projects, which will vary from year to year (see Appendix 2 for a list of those completed to date), CBEEDAC will also:

- a) Continue to develop an inventory of databases and a list of existing surveys on residential, commercial and institutional energy use. New databases will be evaluated with respect to their quality, availability, accessibility, and applicability. Where permitted and practicable, CBEEDAC will maintain and provide sponsors and partners

on-line access to the principal databases, or where this is not possible, will provide information about, and/or analysis based on, these databases.

- b) Host an annual Advisory Board meeting and contribute to periodic NRCan DAC meetings.
- c) Maintain and annually update its business plan in consultation with sponsors and members of the Centre's Advisory Board. This plan, including short, medium, and long-term objectives, will be based on an integrated approach to energy end-use data development (including data on sector activity, characteristics of energy-using equipment and processes) and analysis that over time will contribute to improving understanding of energy use.
- d) Seek additional sponsors to provide additional funds and participate in future work done by the Centre.
- e) Publish three separate *EnerInfo* newsletters on energy end-use by the buildings sector each year. These newsletters are distributed widely and are designed to keep sponsors and other interested parties informed on CBEEDAC's activities and to assist the Centre in seeking new sponsors.
- f) Provide technical and analytical support to data users/owners/providers on the information housed at the Centre and available on-line.

2 BENEFITS

2.1 *Benefits to Alberta and Canada*

In the context of rising concerns about the future availability and affordability of energy sources, the availability, cost-effectiveness, and adoption of energy efficiency measures, and the environmental harms caused by the production and consumption of energy, individuals, governments, and other organizations are looking to improve the state of knowledge on energy consumption and use.

An understanding of the factors affecting these issues, as well as their roles and importance, requires both the availability of relevant data and the expertise and willingness to conduct analysis using these data. Although energy-related data are collected by a variety of agencies and organizations, the existence of relevant datasets is often not well known, and the data may not be in forms that are conducive to analysis. In many cases, the agencies that assemble the data do not have the time, resources, or expertise to analyze these data or to provide them in a user-friendly format to others who may be able to perform such analysis. This severely limits the analysis that can be conducted and the important insights that can be gained. To this end, CBEEDAC helps facilitate access to national and international databases and information,

develops expert knowledge on the residential, commercial and institutional sectors, and undertakes analysis on energy end-use that is pertinent to these sectors. In addition to producing reports based on these analyses, and circulating them widely, the centre provides specific review and analysis of reports produced by others, as well as information about and, where permitted and practicable, access to, relevant building energy end-use data. Thus, the centre acts as a third-party vehicle through which issues pertaining to building energy use, and related environmental concerns, can be addressed nationally and internationally.

Specifically, CBEEDAC provides expertise, information, and advice pertaining to energy use in, and the availability of relevant energy-related data for, the residential, commercial and institutional sectors. This supports both short-term and long-term research, and also provides useful input into the design of data collection systems. In broad terms, CBEEDAC acts as a forum on strategic data issues that involves data providers and users from government, the residential, commercial and industrial sectors, and the research community.

2.2 Benefits to the University of Alberta / Alignment with the Academic Plan

In accordance with the objectives of the University of Alberta, described in the Strategic University Plan for 2007-2011, CBEEDAC seeks excellence in research and contributes to the development and continuation of top-quality expertise in the field of energy end-use data and analysis in the buildings sector (residential, commercial, and institutional), including related environmental issues.

CBEEDAC provides essential and engaging opportunities for graduate students to develop their abilities in research and their knowledge in the field of energy end-use analysis. This element supports the mission of the University to offer excellence in learning and a challenging environment for graduate students.

The presence of CBEEDAC builds a crucial partnership between the Government of Canada and the University of Alberta in the area of energy, where both parties benefit from fruitful collaboration.

CBEEDAC also represents an instrument for the University in fulfilling its role of providing Alberta's population with a sustainable future based on exceptional human capital and to improve knowledge in one of the areas highlighted as a key priority, namely 'conservation of energy use'.

Finally, the proposed centre significantly enhances opportunities for research in the academic community and thus contributes to the preservation and the development of the reputation of excellence of the University of Alberta, both across Canada and internationally. These benefits by far outweigh the administrative costs related to the operation of the proposed centre.

3 KEY OPERATING PRINCIPLES

3.1 Governance

To date CBEEDAC has operated primarily with support of a Contribution Agreement (CA) from NRCan (the current three-year 2009-12 CA is attached as Appendix 4), where the nature of the legal relationship between CBEEDAC and NRCan is explicitly stated as follows:

Nothing contained in this Agreement shall create the relationship of principal and agent, employer and employee, partnership or joint venture between the Parties

[CBEEDAC] shall not make any representation that it is an agent of Canada; or could reasonably lead any member of the public to believe that it or its contractors are agents of Canada

In view of this relationship, it is most appropriate that CBEEDAC be recognized as an academic centre at the University of Alberta, as opposed to an affiliated centre. CBEEDAC is explicitly not an entity of a federal agency, and the University of Alberta maintains control over the centre. Academic freedom and scholarly integrity are key values in the operation of CBEEDAC and under the CA with NRCan, with all intellectual property being vested in the Centre. Even though NRCan has provided significant funding for the centre, projects have been chosen by mutual agreement between CBEEDAC personnel and NRCan. Thus, the definition of an academic centre best suits the activities and governance of CBEEDAC.

The Centre will be set up as an entity within, and governed by, the University of Alberta's academic and administrative structure. The centre is accountable to the Chair of the Department of Economics and to the Dean of Arts for its activities.

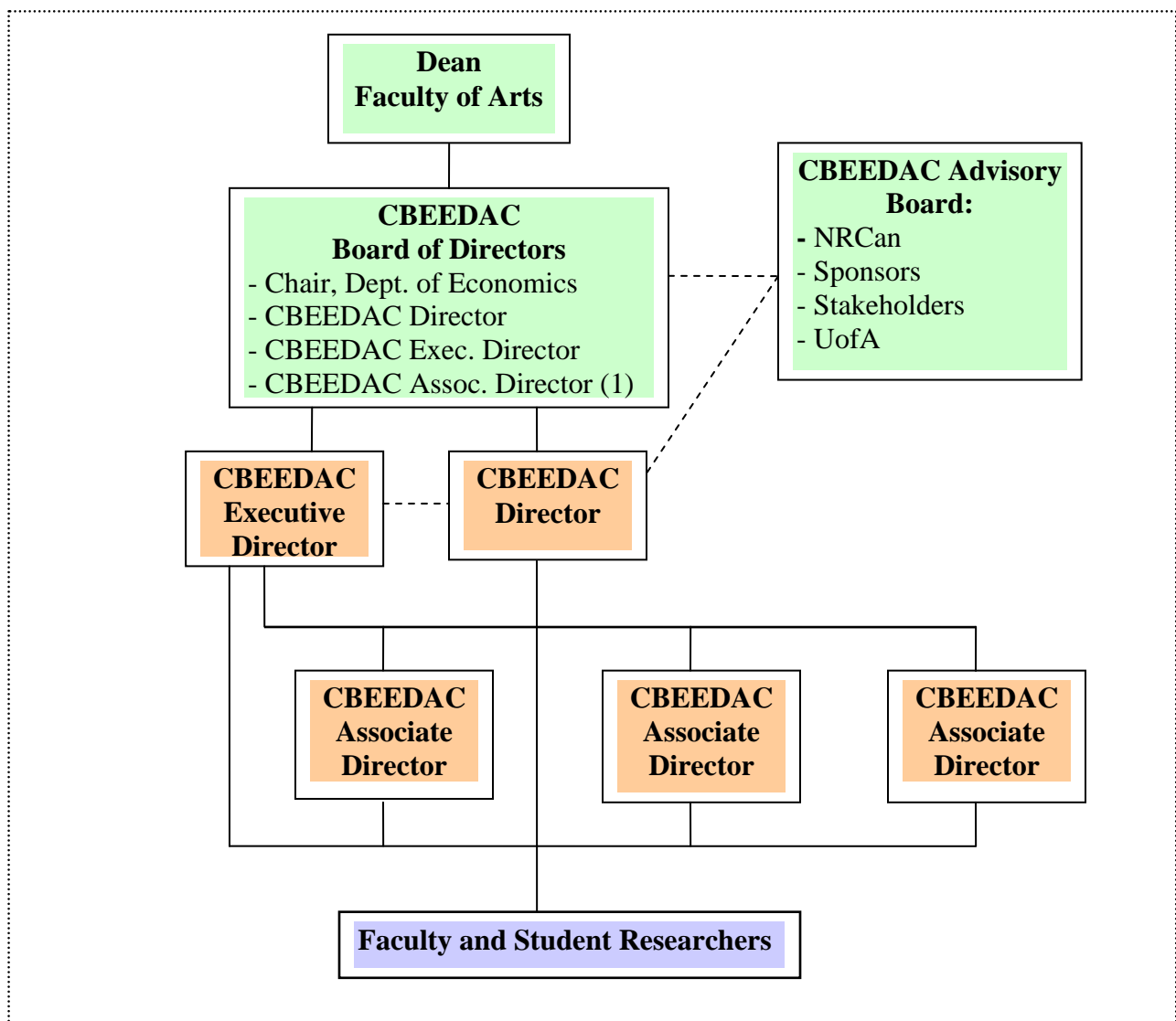
The governance structure, as shown in Figure 1, and explained in detail further below, comprises a Board of Directors, an Advisory Board, the Director of the Centre, Associate Directors, and an Executive Director. Currently these directorship roles are fulfilled by David Ryan (Director), André Plourde, Denise Young, and Joseph Doucet (Associate Directors), and Lucie Maruejols (Executive Director).

The Board of Directors comprises the Director, Executive Director, and one of the Associate Directors of CBEEDAC, as well as the Chair of the Department of Economics. The Board of Directors provides an annual overview of the Centre and, with advice from the Advisory Board, makes recommendations on the Centre's performance and strategic direction, and helps ensure that the activities of the centre remain in accordance with the requirements of the University in terms of reporting procedures, quality of research, and governance. The Board of Directors approves and forwards the annual report of the Centre to the Dean who submits it to the Provost.

An Advisory Board for the Centre will be established to assist in identifying priorities for future work and will also review the Centre's activities. The Advisory Board will include, but is not limited to, representation from interested stakeholders, such as retail energy providers;

environmental groups; provincial and municipal governments; the University of Alberta Department of Economics, School of Business, Faculty of Arts, and Central Administration; and Natural Resources Canada. Efforts to establish the Advisory Board will begin once the Centre has been recognized within the University's structure. To date, CBEEDAC has operated with an informal Advisory Committee which has fulfilled these responsibilities. In view of the predominant role of the Contribution Agreement with Natural Resources Canada in the operations of CBEEDAC, the interim informal Advisory Committee comprises the Director and Associate Directors of CBEEDAC and key officials with the Office of Energy Efficiency at Natural Resources Canada. The Advisory Board, like the Advisory Committee, meets annually, or as needed.

Figure 1: CBEEDAC Organizational Chart



It is not expected that the activities of the proposed centre will be significantly affected by the formal establishment of an Advisory Board. Such a Board will, however, bring additional guidance to CBEEDAC as well as increased opportunities to engage in consultation with external partners such as utility companies and other government and non-government agencies. Exchanges pertaining to the challenges faced by groups with representation on the Advisory Board that are related to the centre's activities could be the starting point for further topics of research for CBEEDAC.

As with the other Data and Analysis Centres supported by NRCan (CDAT at the University of Laval, and CIEEDAC at Simon Fraser University), the operational structure of CBEEDAC involves primarily academic but also some non-academic personnel. Specifically, while these centres have a primary academic/research focus, they also conduct a variety of day-to-day activities and interact with entities outside the academic sphere. To maintain their academic integrity and reputation, it is generally viewed as necessary that each centre have a senior academic as their head. The person in this position is typically referred to as the Director (CBEEDAC, CDAT) or in some cases the Research Director (CIEEDAC) of the Centre. This is the person who can commit the centre to research agreements, ensure that the research is conducted and completed in a way that maintains the centre's integrity and reputation, and who can provide credibility for the centre in a public setting. However, faculty in such positions are generally not directly remunerated for their contributions to the centres, and are consequently unable to commit the time required to operate the centre effectively and to deal with day-to-day issues necessary to ensure that the centre is operating as required. This role is typically fulfilled by a second senior person, typically referred to as an Executive Director (this is the case also in CDAT and CIEEDAC), who is not an academic but who occupies a paid position (a trust position at the University of Alberta). Such people are generally knowledgeable in the field of operation, and are able to interact relatively seamlessly with academics, students and outside entities (such as utility companies, sponsors, other research groups, the public, etc.). However, since they are non-academic, and since faculty who conduct and/or oversee the research (and who also do not receive remuneration from the Centre) cannot be required to follow directions from the Executive Director, it is necessary that the centre have an academic head. Thus, the Executive Director is the administrator of the centre, is involved in all its day to day activities, interacts with outside entities, and coordinates research activities, but cannot commit the centre to undertaking such research activities and cannot be identified as the person ultimately responsible for the research that is undertaken.

In addition to these two senior management positions, the centres also involve a number of other individuals as Associate Directors (CBEEDAC) or Research Associates (CDAT and CIEEDAC). The structure of CIEEDAC is somewhat different to CBEEDAC in that because of its relationship with another research group and a consulting firm, Research Associates in CIEEDAC are generally not academics. At CBEEDAC (as is the case with Research Associates at CDAT), Associate Directors are all academics, and are not remunerated for their time allocated to CBEEDAC activities. In view of this, it is necessary that these individuals be involved in determining the research that CBEEDAC will undertake, not in simply being requested to conduct specific research activities. Thus, while they supervise student researchers and interact with, report to, and take advice from the Executive Director and Director, they have

a more important role in determining the Centre's activities, which is reflected in the inclusion of one of the Associate Directors on the Board of Directors of the Centre.

The Director is in charge of the activities of CBEEDAC. The Director is responsible for the academic integrity and direction of the centre, and for ensuring that the centre meets its budgetary and reporting obligations, as well as its commitments in terms of projects and other activities that it agrees to undertake. In addition to providing leadership for the Centre, the Director is also primarily responsible for co-ordination of communications between the Centre and NRCan and other sponsors or agencies, and for ensuring that sponsorship or other agreements are put in place and renewed as appropriate.

The Associate Directors, who, like the Director, are actively involved in the research activities of the centre, are primarily responsible for determining the projects that the Centre undertakes, and for ensuring that these projects are completed in a timely fashion. Along with the Director, the Associate Directors are responsible for academic supervision of graduate students and other researchers who are employed by the Centre, and for the academic integrity of the reports and other materials that are produced by the Centre. Different Associate Directors would typically have expertise in different aspects of energy economics, thereby allowing the centre to conduct research in these various areas.

The Executive Director, a trust employee, is responsible for the day-to-day operation of the centre, including administration, management of research activities and projects, publications of the Centre including its website, and for co-ordination of graduate students and other researchers.

Each year, the Director and Associate Directors, along with input from NRCan and other sponsors, will decide on a number of research projects that the Centre will undertake. Additional projects may be undertaken as circumstances permit.

3.2 Space

As it has since its inception in 2002, CBEEDAC occupies two rooms provided by the Department of Economics on the 7th floor of the Tory building. Room T7-18 is the office of the Executive Director, while Room T7-19 is a research office equipped with 3 computer systems, to be used by the graduate students appointed to work for CBEEDAC. The Director and Associate Directors are faculty at the University of Alberta with their own offices. No additional space requirements are expected in the foreseeable future.

3.3 Reporting and review

At the end of each academic year the Director submits an Annual Report to the Board of Directors. The report includes a summary of the activities undertaken for the year in review, including goals attained compared with planned activities, an overview of the activities planned for the year ahead, and a revenue and expense report for the year of operation. The Board reviews the Centre's performance and makes recommendations for the following year. Upon

review and approval of the Annual Report by the Board of Directors, which includes the Chair of the Department of Economics, the Report is forwarded to the Dean of the Faculty of Arts, or their designate, the Associate Dean (Research). The Dean reports annually to the Provost on the progress of the Centre as required by University of Alberta policy.

The Associate Dean (Research) will initiate required Five-Year Operational and Strategic Reviews in September of the fifth year, calling for the submission of Five-Year Reviews to the Associate Dean (Research) by April 30th.

If the review leads to a recommendation to discontinue the Centre, the Dean will consult the Provost and Vice-President (Academic). For this situation, an arrangement between NRCan and CBEEDAC is stipulated in the Contribution Agreement.

3.4 Faculty members

Currently, the proposed centre is operated by three active faculty members from the Department of Economics (David Ryan, Denise Young and André Plourde) and one faculty member from the School of Business (Joseph Doucet). A description of their qualifications is contained in the appendix. All these individuals are strongly committed to the success and excellence of the centre in research and in providing supervision and training to graduate students.

In addition, there are numerous other professors from the Department of Economics and the School of Business whose research areas are related to the objectives of the proposed centre and who occasionally collaborate with the proposed centre. In the future, collaborations with faculty in the Faculty of Engineering and the Department of Rural Economy, whose interests align with those of CBEEDAC, are also likely to arise.

Research collaborations with other organizations on the University of Alberta campus, such as the recently-established Office of Sustainability, are also envisaged.

4 BUSINESS PLAN AND BUDGET

4.1 Timeline for development and implementation of the centre's activities

CBEEDAC has been active since March 2002, with funding provided through annual Contribution Agreements with NRCan. Until recently, these agreements included a list of mutually agreed upon projects, which were successfully completed in accordance with timelines defined by NRCan. Projects and activities for the year 2008/09 were completed by the end of May 2009, as specified in the 2008/09 Contribution Agreement. For future years the format of these Contribution Agreements has changed, as federal government regulations are now such that NRCan is no longer permitted to specify a list of projects to be completed. Rather, for 2009/10, and subsequent years, CBEEDAC is expected to submit a list of tasks that will be undertaken by the Centre. Successful completion of these tasks will, among other activities,

involve empirical analysis of data that will be summarized in the form of reports. The development of a new three-year 2009/12 Contribution Agreement was completed and signed in December 2009. With NRCan no longer able to specify particular projects to be undertaken, the importance of CBEEDAC having an Advisory Board to help guide the centre's activities is increased. Upon approval of CBEEDAC as a centre at the University of Alberta, the establishment of a formal Advisory Board will proceed as quickly as possible.

4.2 Funding and Expenditures

The major contributor to CBEEDAC's funding over the past seven years has been NRCan through a series of annual Contribution Agreements (CA), which are negotiated and, until 2008, renewed each year. All three DACs, including CBEEDAC, recently worked with NRCan to successfully transition from these one-year agreements to a three-year agreement, in order to ensure increased stability to the Centre and lower administrative burden. The initial CA in March 2002 was for \$50,000, and since that time, CBEEDAC have received annual CAs from NRCan initially in the amount of \$150,000 per year, but more recently in the amount of \$100,000 per year. The current three-year agreement continues this funding at \$100,000 per year. In addition to this funding, CBEEDAC has also undertaken research funded by separate research grants.

The Department of Economics has also provided ongoing support to CBEEDAC through contributions in kind of office space and secretarial and administrative assistance, as well as office supplies and graduate research assistance.

CBEEDAC has also received funding for specific projects from other sources, such as utility companies, associations and other research groups. Recent applications to the School of Energy and the Environment (SEE) at the University of Alberta have contributed \$40,000 in support of CBEEDAC activities in 2008/09 and a further \$20,000 in 2009/10.

As proposed, CBEEDAC does not engage in consulting activities, so that contracts are not a source of revenues. Rather, CBEEDAC will seek ongoing support from NRCan and research grants or agreements from other agencies. As part of its agreement with NRCan, CBEEDAC is currently developing a strategy to extend its financial resources. In particular, CBEEDAC is working to increase its public exposure and to identify potential new sponsors.

Table 1 provides the 2009/10 CBEEDAC budget by expenditure task, as detailed in the 2008/09 Contribution Agreement with NRCan. The fiscal year is the period beginning April 1 and ending on March 31 in the subsequent year. Expenditures prior to the CA being signed are not eligible for reimbursement. The CA for 2009/12 was not signed until December 3, 2009, so that the full amount available for 2009/10 could not be spent. Note that the amounts in Table 1 refer to NRCan contributions only. Support from other sources, including in-kind contributions, is specified in Table 2. A five-year projected budget, which includes all sources of revenue (incorporating sources listed in Table 1 and Table 2), is presented in Table 3.

Table 1: CBEEEDAC 2009/10 Budget and Expenditures

Eligible Expense	Total Expenditure	Expenditures by Task		
		Direct Centre's Operations	Manage & Administer Centre's Operations	Research and Analysis
Natural Resources Canada Budget for 2009/10 as per Contribution Agreement	100,000.00	17,000.00	45,000.00	38,000.00
Actual Expenditures (as per eligible categories defined in CA):*				
Staff Salaries and benefits	61,452.61	15,000.00	21,925.80	24,526.81
Travel expenses	77.30	0.00	0.00	77.30
Meeting expenses	0.00	0.00	0.00	0.00
Office operating and maintenance expenditures	3,068.60	0.00	3,068.60	0.00
Office Equipment and furniture	5,183.51	0.00	5,183.51	0.00
Professional and technical services	2,695.55	0.00	2,695.55	0.00
Transportation rentals and leases	774.11	0.00	0.00	774.11
Communications materials	2,277.77	0.00	1,179.13	1,098.64
Facility rentals	0.00	0.00	0.00	0.00
Accounting services	0.00	0.00	0.00	0.00
Total Expenditures	75,529.45	15,000.00	34,052.59	26,476.86

* Expenditures are net of tax rebates, as per the CA.

Note: Since funding from NRCan for 2009/10 was not advanced until December 3, 2010, expenses in the table above pertain to the period December 3, 2009 to March 31, 2010.

Table 2: Total Amount of Contributions Received in Respect of the Project, 2009-10

Source	Purpose	Total Contribution
Natural Resources Canada	As per Table 1	75,529.45
University of Alberta	Travel	4884.42
University of Alberta/Dept of Economics	Conference	5000.00
Canadian Association for Energy Economics	Conference	5000.00
School of Energy and the Environment	Operations	46176.65
Sustainable Prosperity	Research	10999.19
University of Alberta/Dept of Economics	In Kind - Operations	32387.37
Total Expenditures		179977.08

Table 3: Five-Year Projected Budget

	2010/11	2011/12	2012/13	2013/14	2014/15
Sources of funds					
Natural Resources Canada	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Department of Economics, in kind*	\$40,000	\$40,500	\$41,000	\$41,500	\$42,000
School of Energy and the Environment	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Other partnerships	\$10,000	\$10,000	\$12,000	\$12,000	\$15,000
Total	\$170,000	\$170,500	\$173,000	\$173,500	\$177,000
Expenses					
Executive Director	\$65,000	\$66,000	\$67,000	\$68,000	\$70,000
Researchers	\$35,000	\$34,000	\$34,000	\$34,000	\$35,000
Course Releases	\$15,000	\$15,000	\$16,000	\$16,000	\$16,000
TOTAL Salaries	\$115,000	\$115,000	\$117,000	\$118,000	\$121,000
Travel/Conference	\$3,500	\$4,500	\$4,500	\$4,500	\$4,000
Administrative Assistance	\$6,000	\$6,000	\$6,500	\$6,500	\$6,500
Office Space	\$10,500	\$10,500	\$11,000	\$11,000	\$11,000
Computing, etc.**	\$12,000	\$11,000	\$10,500	\$10,000	\$11,000
Contracted Services	\$3,000	\$3,500	\$3,500	\$3,500	\$3,500
Miscellaneous, including overhead	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Total	\$170,000	\$170,500	\$173,000	\$173,500	\$177,000

*Includes graduate research support, travel, administrative assistance, office space, and office supplies.

**Includes computer software and hardware, website, data acquisition.

5 POTENTIAL RISKS

A potential risk concerns the continuation of annual funding. There has never been a formal commitment from NRCan to provide ongoing funding, as they must themselves request funding for the Centre on an annual basis as part of their budget determination process. However, CBEEDAC has been in existence since 2002 with uninterrupted support from NRCan, while a similar centre for the industrial sector located at the Simon Fraser Institute, CIEEDAC, has been in existence for over 13 years, based on a series of annual CAs. On this basis, this risk appears to be manageable. CIEEDAC has been able to attract outside funding from industry and other government agencies. As an academic centre at the University of Alberta, CBEEDAC would also be in a better position to obtain additional funding that would help diminish this risk.

Another area of concern relates to the time at which funding from NRCan is actually received, which has occurred in late fall in each of the past few years. Regardless of when funding is advanced, however, the funding period terminates at the end of March when the financial year ends. Not having funding available during the summer period prevents CBEEDAC from being able to hire graduate researchers during the main period when these students are available, and also when faculty have reduced teaching responsibilities, and thereby severely limits the centre's ability to undertake and complete research projects. Recent support from the School of Energy and the Environment has allowed the Centre to relieve this problem for the last two years. A recent change to three-year rather than one-year Contribution Agreements with NRCan will also help to alleviate this problem. The Contribution Agreement for the three-year period 2009-2012, completed in December 2009, and which is included as Appendix 4, has essentially the same form as the previous annual CAs. Additional funding provided by other sponsors – which would likely be enhanced by CBEEDAC being established as an academic centre – especially if it can be obtained during the summer period, would also be greatly beneficial in this regard, and would further help mitigate this risk.

Should sufficient funding not be obtained from any sources, CBEEDAC would cease to operate. This has no implications for faculty involved in CBEEDAC or its research as their positions are not supported by CBEEDAC funding. Graduate students who work for CBEEDAC during the fall and winter terms, supported by research assistantships, would also not be affected as their funding is provided directly by the Department of Economics rather than CBEEDAC. Rather, CBEEDAC funding is used to increase the total number of graduate assistantships that the Department offers. Thus, the absence of CBEEDAC funding would mean that fewer graduate students would be offered assistantships by the Department during the fall and winter terms. No pre-commitment is made by CBEEDAC to hire students during the summer period, so that the disappearance of CBEEDAC funding would just mean that summer research positions for students would not be available. The Executive Director of CBEEDAC, a trust employee position, is funded entirely from CBEEDAC funding, so the loss of funding would mean that this position would be vacant. The position itself is only filled on a funding-available basis.

APPENDICES

Appendix 1: Principal CBEEDAC Investigators

David Ryan

David Ryan, Director of CBEEDAC since 2002, and Professor in the Department of Economics at the University of Alberta, completed a Bachelor of Economics degree (1st class Honours), and a Master of Economics degree, specializing in econometrics, from Monash University in Australia. He obtained his PhD in economics at the University of British Columbia in 1983, and since that time has been with the economics department at the University of Alberta. He has held visiting appointments at various Australian universities including the University of Melbourne, the University of Sydney, and the Australian National University.

David's research interests are focused on applied econometrics, particularly the modelling and empirical analysis of consumer behavioural responses. Many of these applications have been investigated in the context of energy demand, as well as energy efficiency, in the residential and commercial sectors.

Denise Young

Denise Young, Associate Director of CBEEDAC, is an Associate Professor in the Department of Economics at the University of Alberta. Denise obtained her PhD in economics, specializing in resource economics, from the University of Toronto in 1989, following Bachelor of Arts and Master of Arts (economics) degrees completed at McMaster University. Denise has held a number of administrative roles with the Department of Economics since her appointment to the University of Alberta in 1989, including Associate Chair of the Department.

Denise's research interests include applied econometrics and natural resource economics, and she has been an active researcher and integral part of CBEEDAC since its formation in 2002.

André Plourde

André Plourde, Professor of Economics and Associate Director of CBEEDAC, was Chair of the Department of Economics between 2004 and 2009. André completed Bachelor of Arts and Master of Arts (economics) degrees at the University of New Brunswick prior to obtaining his PhD in economics from the University of British Columbia in 1985. He has held academic appointments at the University of Toronto and the University of Ottawa, where he was also Chair of the Department of Economics, prior to joining the University of Alberta in 1998 where he has held appointments in the School of Business as well as the Department of Economics where he is now located. As well as academic positions, Professor Plourde has also held positions with the Government of Canada as Director of Economic Studies and Policy Analysis for the Department of Finance, and more recently as Associate Assistant Deputy Minister, Energy Sector, and Acting Assistant Deputy Minister, Energy Sector at Natural Resources Canada.

André's research has long focused on energy economics and energy policy issues, and as a result he has been appointed to a number of advisory committees concerned with energy policy matters, including most recently as a member of the Royalty Review Panel, appointed by the Minister of Finance of the Government of Alberta, to assess the royalty and tax system applicable to Alberta's oil and gas production sector. André has been actively involved with the executive of the International Association for Energy Economics (IAEE) since 2001, including a term as President in 2007.

Partial List of Related Research and Publications

(Not including CBEEEDAC reports listed in Appendix B)

David Ryan:

“Energy Use in Canadian Buildings: What Have We Learned from Recent Data”, pp. 177-207 in Utrick, J.B. (ed) *Energy and Buildings: Efficiency, Air Quality and Conservation*, New York: Nova Science Publishers, 2009 (with D. Young).

“Modelling Energy Savings and Environmental Benefits from Energy Policies and New Technologies”, pp. 234-256 (Chapter 10) in Evans, J. and L. Hunt (eds) *International Handbook on the Economics of Energy*, Cheltenham: Edward Elgar, 2009 (with D. Young).

“Empirical Modelling of Energy Demand”, pp. 112-143 (Chapter 6) in Evans, J. and L. Hunt (eds) *International Handbook on the Economics of Energy*, Cheltenham: Edward Elgar, 2009 (with A. Plourde).

An Introduction to Quantitative Methods in Economics, 2008, Island Park, NY: Whittier Publications (ISBN: 978-1-57604-284-7) (with D. Young).

“A Systems Approach to Modelling Asymmetric Demand Responses to Energy Price Changes”, pp. 183-224; in W.A. Barnett, A. Serletis (eds.) *Functional Structure Inference*. Amsterdam:Elsevier, 2007 (with A. Plourde).

“Utilization of Residential Energy-Saving Retrofit Programs in Canada: Who, What and Why?”, in C.A. Bollino, E. Curcio, U. Farinelli (eds.) *Energy Markets and Sustainability in a Larger Europe*. Proceedings of the 9th European Conference of the International Association for Energy Economics. Florence, Italy. Florence:International Association for Energy Economics. CD, 10 pgs, 2007 (with S. Gamtessa).

“The Effect on Consumers of Electricity Market Restructuring in Alberta, Canada”, in G. Bertram (ed.) *From Restructuring to Sustainability: Energy Policies for the 21st Century*. Proceedings of the 30th International Conference of the International Association for Energy Economics. Wellington, New Zealand. Wellington:International Association for Energy Economics. CD, 15 pgs, 2007 (with J Jahangir).

- “Conditional Demand Analysis Revisited: Evaluating Residential End-Use Energy Consumption in Canada”, in D. Nissen, L. Kiesling, T. O’Donnell, W. Iledare (eds.) *Energy in a World of Changing Costs and Technologies*. Proceedings of the 26th North American Conference of the United States Association for Energy Economics, Ann Arbor, MI. Ann Arbor:United States Association for Energy Economics. CD, 12 pages, 2006 (with R. Liu).
- Review of “The Economics of Energy Efficiency: Barriers to Cost-Effective Investment, (Cheltenham, UK: Edward Elgar, 2004), by S. Sorrell, E. O’Malley, J. Schleich, S. Scott” *Energy Studies Review*, 14-1, 2006, 186-192.
- “The Impact of Energy Efficient Equipment on Household Energy Use in Canada: Programmable Thermostats”, in M. Kah, C. Dahl, d. El Mallakh, W. Iledare (eds.) *Fueling the Future: Prices, Productivity, Policies, and Prophecies*. Proceedings of the 25th North American Conference of the United States Association for Energy Economics, Denver. Denver:United States Association for Energy Economics. CD, 10 pages, 2005 (with D. Herasymiuk).
- “Modelling Sluggish Price Responses in Energy Demand Models: A Critical Evaluation of Alternative Methodologies”, in M. Filippini, E. Jochem, D. Spreng (eds.) *Modelling in Energy Economics and Policy*. Proceedings of the 6th European Conference of the International Association for Energy Economics, Zurich, Switzerland. Zurich:Swiss Association for Energy Economics. CD, 22 pages, 2004 (with A. Plourde).
- “The Canadian Building Energy End-Use Data and Analysis Centre at the University of Alberta”, *Energy Studies Review* 11(2): 230-232, 2003 (with D. White and A. Plourde).
- “Changing Panes / Changing Pains: The Determinants of Commercial Retrofit Decisions in Canada”, in A. Sieminski, J. Santalo, A. Plourde, G. Gulen, C. Watkins, A. Baltierra (eds.) *Integrating the Energy Markets in North America: Issues & Problems, Terms & Conditions*. Proceedings of the 23rd North American Conference of the International Association for Energy Economics, Mexico City, Mexico. Cleveland:United States Association for Energy Economics. CD, 10 pages, 2003 (with D. Young and A. Plourde).
- “The Heat is On: The Changing Role of Weather on Residential Energy Demand”, in J. Myslivec, I. Benes, A. Plourde (Eds.) *New Challenges for Energy Decision Makers*. Proceedings of the 26th International Conference of the International Association for Energy Economics, Prague, Czech Republic. Cleveland:International Association for Energy Economics. CD, 10 pages, 2003 (with A. Plourde).
- “Smaller and Smaller? The Price Responsiveness of Non-Transport Oil Demand”, *Quarterly Review of Economics and Finance* 42: 285-317, 2002 (with A. Plourde).
- “Thanks for the Memories: Oil Price Decompositions and Energy Demand Asymmetries”, in A.G. Kemp (ed.) *Innovation and Maturity in Energy Markets: Experience and Prospects*.

- Proceedings of the 25th International Conference of the International Association for Energy Economics, Aberdeen, Scotland. Aberdeen:International Association for Energy Economics. CD, 10 pages, 2002 (with A. Plourde).
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- “Energy Demand Asymmetries and Greenhouse Gas Abatement”, in R. Bartels and D. Fiebig (eds), *Energy Markets & the New Millennium: Economics, Environment, Security of Supply*, 2000. (International Association for Energy Economics), CD, 31 pages (with A. Plourde).
- “Flexible and Semiflexible Consumer Demands with Quadratic Engel Curves”, *Review of Economics and Statistics*, 81-2, 1999, 277-287 (with T.J. Wales).
- “A Simple Method for Imposing Local Curvature in Some Flexible Consumer Demand Systems”, *Journal of Business and Economic Statistics*, 16-3, 1998, 331-338 (with T.J. Wales).
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- “Oil Price Asymmetries: Fact or Artifact? Residential Oil Demand in Ontario 1963-1992”, in A. Finizza and D. O'Brien (eds.) *The World Oil & Gas Industries in the 21st Century*, 1994 (International Association for Energy Economics), 413-422 (with A. Plourde and Y. Wang).
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- “On the Use of Double-Log Forms in Energy Demand Analysis”, *The Energy Journal*, 6-4, 1985, 105-113 (with A. Plourde).
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Denise Young:

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- “A New Look at Copper Markets: A Regime-Switching Jump Model”, *Review of Futures Markets*, 2009, 18:1, 75-85 (with W. Chan).
- “Modelling Energy Savings and Environmental Benefits from Energy Policies and New Technologies”, pp. 234-256 (Chapter 10) in Evans, J. and L. Hunt (eds) *International Handbook on the Economics of Energy*, Cheltenham: Edward Elgar, 2009 (with D.L. Ryan).
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- “Sustainable Development and Mining: An Exploratory Analysis of the Roles of Government and Industry,” pp. 151-182 in J.Richards (editor), Mining, Society, and a Sustainable World, Springer-Verlag, 2009 (with A. Waye, J. Richards, and J. Doucet).
- An Introduction to Quantitative Methods in Economics*, 2008, Island Park, NY: Whittier Publications (ISBN: 978-1-57604-284-7) (with D.L. Ryan).
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- “Who Pays for the ‘Beer Fridge?’: Evidence from Canada,” 2008, *Energy Policy*, 36, 553-560.
- “The Potential for Energy Efficiency Gains in the Canadian Commercial Building Sector: A Stochastic Frontier Study,” 2007, *Energy – The International Journal*, 32, 1769-1780 (with J Buck).
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- “Changing Panes/Changing Pains: The Determinants of Commercial Retrofit Decisions in Canada” 2003, in *Integrating the Energy Markets in North America: Issues & Problems, Terms & Conditions*, Proceedings of the 23rd IAEE North American Conference, Mexico City, Mexico, October 19-21, 2003, CD-ROM, 10 pages (with D.L. Ryan and A. Plourde).
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Appendix 2: List of CBEEDAC Reports (Completed Projects) and Newsletters

2009/10

- “Energy Use in Canadian Multifamily Dwellings”, by Lucie Maruejols and Denise Young, Report No: CBEEDAC 2010-RP-01.
- “CBEEDAC Survey of Electricity Price Awareness: A Preliminary Examination of Survey Responses”, by Lucie Maruejols and David L. Ryan, Report No: CBEEDAC 2010-RP-02.
- “CBEEDAC Development Activities”, Report No: CBEEDAC 2009-RP-03.

2008/09

- “Residential Energy Demand in Canada”, by Lucie Maruejols and David L, Ryan, Report No: CBEEDAC 2009-RP-01.
- “Explaining Energy Savings under the EnerGuide for Houses Home Retrofit Program”, by David L. Ryan, Report No: CBEEDAC 2009-RP-02.
- “Energy Efficiency in Canadian Commercial Buildings: Evidence from 2000 and 2005”, by James Lin and Denise Young, Report No: CBEEDAC 2009-RP-03.
- “Generalizing Home Retrofit Program Results to Non Participants”, by Lucie Maruejols and David L, Ryan, Report No: CBEEDAC 2009-RP-04. .

2007/08

- “Modelling Energy Savings and Environmental Benefits from Energy Policies and New Technologies”, by David L Ryan and Denise Young, Report No: CBEEDAC 2008–RP-01.
- “Time-Saving Innovations and Canadian Household Energy Use”, by Vera Brenčič and Denise Young, Report No: CBEEDAC 2008–RP-02.
- “Energy Demand Models and Modelling”, by David L Ryan and André Plourde, Report No: CBEEDAC 2008–RP-03.
- “Environmental Awareness and Household Energy Efficiency”, by David L Ryan, Report No: CBEEDAC 2008–RP-04.

2006/07

- “Major Appliance Replacement in Canada”, by Denise Young, Report No: CBEEDAC 2007-RP-01.
- “Energy Use for Residential Water Heating for Dishwashers and Clothes Washers”, by Ronggui Liu, Report No: CBEEDAC 2007-RP-02.
- “Reconciliation of Sales and Stocks of Air Conditioners in Canada”, by Matthew Hansen, Report No: CBEEDAC 2007-RP-03.
- “Energy Consumption and Energy Intensity in Multi-Unit Residential Buildings (MURBs) in Canada”, by Ronggui Liu, Report No: CBEEDAC 2007-RP-04.
- “Estimation of Site-Specific Electricity Consumption in the Absence of Meter Readings: An Empirical Evaluation of Proposed Methods”, by David L. Ryan and Denise Young, Report No: CBEEDAC 2007-RP-05.
- “Participation Rates and Energy Cost and Consumption Savings in the EnerGuide for

Houses Retrofit Incentive Program”, by Evgeny Prasol and David L. Ryan, Report No: CBEEDAC 2007-RP-06.

- “Utilization of Residential Energy-Saving Retrofit Programs in Canada: Who, What, and Why?”, by Samuel Gamtessa and David L. Ryan, Report No: CBEEDAC 2007-RP-07.
- “The Possibility of Energy Consumption Misclassification by Sector in Canada”, by Natalia Ivanova and David L. Ryan, Report No: CBEEDAC 2007-RP-08.
- “Ownership and Use of Programmable Thermostats in Canada in 2003”, by David L. Ryan and Jevan Cherniwchan, Report No: CBEEDAC 2007-RP-09.

2005/06

- “Energy Use in Malls and Shopping Centres: Evidence from Canada”, by Denise Young and Jon Buck, Report No: CBEEDAC 2006–RP-01.
- “Energy Use Patterns According to Main and Subsidiary Activities: Evidence from Buildings Housing Non-Food Retailers”, by Nigel Fish and Denise Young, Report No: CBEEDAC 2006-RP-02.
- “Compact Fluorescent Lights (CFLs) in Canada”, by Allan Wesley and David L. Ryan, Report No: CBEEDAC 2006-RP-03.
- “Standby Power Energy Use of Common Household Appliances”, by Nigel Fish, Donna J. White, and David L. Ryan, Report No: CBEEDAC 2006-RP-04.
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- “Report on ‘Electricity Market Restructuring and Consumers’” by Junaid bin Jahangir and David L. Ryan, Report No: CBEEDAC 2006–RP-06.
- “Conditional Demand Analysis Revisited: Evaluating Residential End-Use Energy Consumption in Canada”, by David L. Ryan and Ronggui Liu, Report No: CBEEDAC 2006–RP-07.
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2004/05

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- “Domestic Hot Water Heating and Water Heater Energy Consumption in Canada”, by Carolina Aguilar, Donna.J. White, and David L. Ryan, Report No: CBEEDAC 2005–RP-02.
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2003/04

- “Electricity Consumption: Water Treatment, Pumping, and Wastewater Recovery”, by Donna J. White, Report No: CBEEDAC 2004-RP-01.
- Expert Advice on the Recalibration of the Commercial Energy Use Database
- Energy Efficiency in Canadian Commercial and Institutional Buildings
- Characterization of a Typical Buildings Retrofit
- The Determinants of Commercial Retrofit Decisions
- Disaggregate Analysis of the Role of Weather as a Determinant of Energy Use in the Building Sector
- Assessment of the Increased Penetration/Use of Auxiliary Office Equipment

2002/03

- “Commercial and Institutional Building Energy Use Survey Review”, by Denise Young, Report No: CBEEDAC 2003-RP-01
- Expanding the Coverage of CIBEUS
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- Ryan, D. and A. Plourde (2002) “Changes in Energy Demand Responsiveness – Asymmetry or Attenuation”, *enerInfo Building* 1-1, 3-4.

Appendix 3: Letters of Support



June 9, 2009

To: Dr. Dru Marshall, Deputy Provost

From: C. Skidmore, Interim Dean
Faculty of Arts 

Re: Faculty of Arts support for establishment of CBEEDAC as recognized
University of Alberta centre

The Faculty of Arts is pleased to offer its strong support for the establishment of CBEEDAC (Canadian Building End-Use Data and Analysis Centre) as a recognized University of Alberta centre.

CBEEDAC has maintained an important presence within the Faculty of Arts since its establishment here at the University of Alberta in 2001-2002, following a successful proposal submitted by Professors David Ryan and André Plourde (both currently members of the Department of Economics) to Natural Resources Canada in a nation-wide competition. The majority of funding for CBEEDAC has been provided from Natural Resources Canada through a series of annual Contribution Agreements, with occasional short-term funding from other sources. The primary roles of the centre pertain to data analysis related to energy use in Canadian buildings. Understanding the behaviour underlying the observed data is essential for increasing energy efficiency in Canada and providing good stewardship for Canada's energy and environmental resources. More precisely, the analysis of the residential and commercial building data available through CBEEDAC aids in our understanding of how energy is consumed, what factors affect its use, and the relative importance of these factors. This understanding is essential in the design of policies aimed at increasing energy efficiency in Canadian buildings. The results of CBEEDAC research are used by policy makers, utility companies, and academic researchers. The centre also assesses energy-related data that are currently available, and their quality, and makes recommendations for future data collection efforts. In this aspect of its mandate, CBEEDAC continuously strives to be the key Canadian energy reference source for the building sector, where relevant and reliable information on energy management, building construction, building renovation, policy shaping, energy saving technologies, or consumer behavior, can be found.

Over the past several years, under the direction of Professor Ryan, CBEEDAC has provided an excellent vehicle for engaging faculty members and both undergraduate and graduate students in research on a variety of energy-related issues that are of direct relevance to households, businesses, and policy-makers. This research has been disseminated in a variety of ways including publications in academic venues as well as

national and international conference presentations by faculty and graduate students, newsletters circulated to a variety of stakeholders, and numerous reports prepared for its major sponsor (Natural Resources Canada). Furthermore, many graduate students have benefitted, both in terms of skill development and employment opportunities, from the data available through CBEEDAC and the expertise of affiliated faculty researchers by acting as research assistants or undertaking independent research projects in the area of energy economics. The presence of CBEEDAC reinforces the position of the University of Alberta as a leader in research in the areas of energy and the environment as well as the reputation of the University as being one of the best places for graduate training for students in these fields. The Faculty values highly the work that CBEEDAC does and, again, strongly supports its establishment as a University of Alberta centre.

Cc. Professor David Ryan, Director,
CBEEDAC;
Professor André Plourde, Chair,
Department of Economics.

10065 Jasper Avenue
Edmonton AB T5J 3B1
Canada



June 4, 2009

Professor David Ryan
Director, CBEEDAC
Canadian Building Energy End-Use Data and Analysis Centre
Department of Economics
University of Alberta
Edmonton, AB T6G 2H4

Dear Professor Ryan:

Re: Establishment of CBEEDAC as an Academic Centre at the University of Alberta

I am pleased to write in support of the proposal to have the Canadian Building Energy End-Use Data and Analysis Centre established as an academic centre at the University of Alberta.

As a provider of energy services, EPCOR is committed to encouraging research and analysis of energy use, energy efficiency and other related issues that help shape the way that energy is both utilized and conserved, as well as our understanding of these processes. CBEEDAC researchers have collaborated with EPCOR in the past, and these research collaborations proved to be efficient, effective and useful.

In a world of increasing concerns about the environmental harms that may be caused by energy production and consumption, as well as concerns about the long-term availability of energy resources, it is essential to improve our knowledge of the factors that affect energy consumption and energy efficiency, as well as their impacts on the environment. The collection and preservation of data on energy use for the residential, commercial and institutional (buildings) sector, confer CBEEDAC with a unique and vital role in the process of understanding energy demand. The analysis, reports and high-quality expertise that are produced can provide significant insights into shaping energy and environmental policies, both in Canada and world-wide.

In addition, the training of graduate students in the area of energy economics research, to which CBEEDAC contributes in a significant way, contributes to the reputation of excellence of the University of Alberta and to the development of qualified professionals who can understand, analyze, and react appropriately to today's and tomorrow's global challenges in this area.

To summarize, EPCOR fully supports the formal establishment of CBEEDAC as an academic centre at the University of Alberta. CBEEDAC is an excellent research centre and we are proud to collaborate in developing its full potential as a valuable asset for energy research in Canada.

Sincerely,

A handwritten signature in black ink, appearing to read 'Guy Bridgeman', is written over a large, faint watermark of the EPCOR logo.

Guy Bridgeman
Senior Vice President, Distribution & Transmission and Energy Services





June 18, 2009

Professor David Ryan
Director, CBEEDAC
Canadian Building Energy End-Use Data and Analysis Centre
Department of Economics
University of Alberta
Edmonton, AB
T6G 2H4

Dear Professor Ryan:

Re: Establishment of CBEEDAC as an Academic Centre at the University of Alberta

On behalf of the National Energy Board (NEB), I am pleased to write in support of the proposal to have the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC) established as an academic centre at the University of Alberta.

The National Energy Board is an independent federal agency established in 1959 by the Parliament of Canada to regulate international and interprovincial aspects of the oil, gas and electric utility industries. The purpose of the NEB is to promote safety and security, environmental protection and efficient energy infrastructure and markets in the Canadian public interest within the mandate set by Parliament in the regulation of pipelines, energy development and trade. As such, the NEB is interested in research and analysis of energy use and energy efficiency, and particularly the factors that affect these variables.

While there appears to be much research on energy-related matters, and especially those pertaining to energy policy, there is often little academic research on which these types of analyses can be based. Many agencies and firms lack either the time or resources to delve into these problems at the level that is required to provide the thorough understanding that is necessary for sound policy making. CBEEDAC fills an important gap here by focusing academic research on these types of issues and by providing high-quality analysis of energy utilization decisions in the residential, commercial and institutional sectors.

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The building sector is commonly singled out as the largest and most cost-effective energy saving opportunity that exists today. It also has some of the most economically favourable GHG abatement opportunities of all possible strategies. The building sector is poised for a truly transformative stage. However, buildings are infinitely unique and operate as complex systems. Fundamental issues related to the integrity of baseline data, energy savings, and GHG reductions will fall under closer scrutiny. The work of CBEEDAC helps bridge that crucial gap between vision and policy.

CBEEDAC has also proven to provide excellent training for graduate students in economics. These students learn about many aspects of energy use, and develop a wide range of modelling and estimation techniques. The NEB has been fortunate to employ former graduate students in economics who have obtained training of this type by working as CBEEDAC researchers. This is an important function, both for the students themselves and the industries that are likely to employ them. The establishment of CBEEDAC as a formal academic centre at the University of Alberta, and the increased visibility that is sure to accompany this, will only serve to enhance the reputation of the Centre as well as the University.

CBEEDAC has completed a large number of research projects in the period since its inception, and these cover a wide variety of energy-related issues. It is important that the centre continue to flourish and provide these types of analysis, and to this end we at the NEB are fully supportive of their desire to be established as a formal academic centre. This is likely to enhance their visibility and reputation, and potentially to lead to a number of fruitful research collaborations that will enhance their and the University's reputation, while at the same time contributing importantly to our understanding of energy efficiency and energy use, issues that are of vital importance to the NEB and to Canadians as a whole.

I would be very pleased to provide any further follow up information in support of CBEEDAC.

Sincerely,



Abha Bhargava, Ph.D.
Team Leader, Energy Demand
Strategy and Analysis Business Unit



Natural Resources
Canada

Ressources naturelles
Canada

Ottawa, Canada
K1A 0E4

June 30, 2009

Professor David Ryan
Director, CBEEDAC
Canadian Building Energy End-Use Data and Analysis Centre
Department of Economics
University of Alberta
Edmonton, AB
T6G 2H4

Dear Professor Ryan:

Re: Establishment of CBEEDAC as an Academic Centre at the University of Alberta

In 2001, Natural Resources Canada (NRCan), through its Office of Energy Efficiency, launched a nation-wide competition for the establishment of its new Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC). We were looking for a location where there would be a critical mass of researchers, support staff and facilities to provide us with economic, statistical and technical expertise in the areas of commercial, institutional and residential energy use. CBEEDAC, with its focus on the buildings sector (residential, commercial, and institutional), was envisaged as a sister centre that would complement the ongoing activities of our two other data analysis centres, CIEEDAC and CDAT, whose focus is on the industrial and transportation sectors, respectively.

A proposal from the University of Alberta was ultimately successful, and CBEEDAC was established there in February 2002. An initial start-up Contribution Agreement (CA) was put in place for the last 2 months of the 2001-02 year, and since that time, NRCan has continued its support of CBEEDAC through a series of annual Contribution Agreements. Collectively, CBEEDAC and its sister centres were designed to help preserve and improve the accessibility and compatibility of existing databases on energy use in the various sectors, as well as to conduct expert analysis using these data. Since 2002, CBEEDAC has produced numerous reports on a wide variety of important topics related to energy end-use and energy efficiency in the buildings sector. These analyses have helped expand and improve our existing knowledge about energy consumption and efficiency at the end-use level, especially the behaviour and attitudes of Canadian consumers with respect to energy use and the adoption of energy-efficient technologies.

From the outset it was always envisaged the CBEEDAC, like the other centres, would grow and increase its visibility and interconnectedness with other agencies involved in or concerned with energy end use. It was further envisaged that other funding partners would be identified. Consequently, Natural Resources Canada is very pleased to support the current proposal to have the Canadian Building Energy End-Use Data and

Canada

Analysis Centre (CBEEDAC) established as an academic centre at the University of Alberta. This initiative has great promise in terms of helping to provide a number of new linkages between CBEEDAC researchers and the wider community, leading to new data and research opportunities that provide benefits for us as well as the wider community and increasing the likelihood of attracting additional funding partners. The increased understanding of factors affecting energy use, energy conservation, and energy efficiency that is likely to result from these increased collaborations has great potential to better inform energy-related policy-making in Canada and elsewhere. We therefore support the establishment of CBEEDAC as an Academic Centre of the University of Alberta.

Please contact us if you or others would like to discuss NRCan's support for CBEEDAC in greater detail.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'A. Kormylo', with a stylized flourish at the end.

Andrew Kormylo
Chief, End-Use Program Analysis
Demand Policy and Analysis Division
Office of Energy Efficiency
Natural Resources Canada



Building on our *Strengths*
Investing in our *People*

Interdepartmental Correspondence

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Date: June 19, 2009
To: David Ryan, Professor, Department of Economics
From: Michael Percy, Dean of Business
Re: **The Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC)**

The School of Business strongly supports the establishment of the Canadian Building Energy End-Use Data and Analysis Centre (CBEEDAC) as an academic centre at the University of Alberta, within the Department of Economics in the Faculty of Arts.

CBEEDAC was established at the University of Alberta in 2002 as a result of co-operation between the Department of Economics and the School of Business. Although the primary researchers in CBEEDAC are located in the Department of Economics, the School of Business retains close ties to CBEEDAC, with Professor Joseph Doucet from the Business School appointed as one of the Associate Directors of CBEEDAC. As a result there are strong links between CBEEDAC and our own centre, CABREE (the Centre for Applied Business Research in Energy and the Environment), headed by Professor Doucet, as well as with the School of Energy and the Environment (SEE). Indeed, for the past three years, CBEEDAC and CABREE have co-sponsored an internal Applied Energy workshop series. As a result, many faculty members in the School of Business interact with CBEEDAC on a regular basis.

Both the School of Business and the Department of Economics have a strong core of faculty working in areas related to energy economics, and indeed offer graduate training in these fields. In the past seven years CBEEDAC has helped a large number of graduate and undergraduate students obtain hands-on training in energy-related areas. The establishing of CBEEDAC as an academic centre at the University of Alberta is likely to increase these opportunities for students, as well as enhancing opportunities for faculty from the Department of Economics, the School of Business, and possibly other areas, to conduct research related to energy end-use in the buildings sector. The School of Business therefore is very pleased to support this initiative.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael B. Percy'.

Michael B. Percy
Stanley A. Milner Professor and Dean

e-mail: michael.percy@ualberta.ca

Michael B. Percy

Stanley A. Milner Professor and Dean

**Appendix 4: Contribution Agreement with Natural Resources
Canada for 2009-12**

DEPARTMENT OF NATURAL RESOURCES
DEPARTMENTAL CLASS GRANTS and CONTRIBUTIONS PROGRAM
NON-REPAYABLE CONTRIBUTION AGREEMENT

THIS AGREEMENT is made in duplicate

BETWEEN:

HER MAJESTY THE QUEEN IN RIGHT OF CANADA
("Canada"), represented by the Minister of Natural Resources,

AND:

GOVERNORS OF THE UNIVERSITY OF ALBERTA is a corporation under the Post-secondary Learning Act, incorporated under the laws in force in the Province of Alberta, (the "Proponent").

WHEREAS Canada wishes to encourage the adoption of "DEPARTMENTAL CLASS GRANTS and CONTRIBUTIONS PROGRAM";

WHEREAS the Proponent has submitted to the Minister a Proposal for the funding of a Project called "CANADIAN BUILDING ENERGY END-USE DATA AND ANALYSIS CENTRE" which qualifies for support under the Program;

WHEREAS Canada and the Proponent agree that in order for the Proponent to develop and implement the Project as described in Schedule A, the Proponent will require financial assistance from Canada;

AND WHEREAS Canada is willing to provide financial assistance toward the Eligible Costs of the Project in the manner and upon the terms and conditions hereinafter set forth;

NOW, THEREFORE, Canada and the Proponent agree as follows:

1. INTERPRETATION

1.1 In this Agreement:

"**Agreement**" means this Agreement and the attached Schedules A, B, C and D. In the case of a conflict between the Agreement and the Schedules, the terms of the Agreement shall take precedence;

"**Completion Date**" means the date that the Proponent shall complete the Project as specified in Paragraph 4.2;

"**Eligible Costs**" means any costs Incurred by the Proponent in accordance with the terms and conditions of this Agreement and which are listed in Schedule B;

"**Fiscal Year**" means the period beginning on April 1st of any year and ending on March 31st in the next year;

"**Incurred**" means an Eligible Cost where goods have been received by and/or services have been rendered to the Proponent;

"**Incurred and Paid**" means an Eligible Cost for goods and/or services that have been paid for by the Proponent;

"**Intellectual Property**" means any Intellectual Property right recognized by the law, including any intellectual property right protected through legislation (such as that governing patents, copyright, trade-marks, and industrial designs);

"**Minister**" means the Minister of Natural Resources and includes any duly authorized officers or representatives;

"**Project**" means the Project described in Schedule A and submitted by the Proponent in the Proposal; and

"**Proposal**" means a written Proposal signed by the Proponent including at least a background, purpose, work description, results expected, and a budget submitted by the Proponent, which is accepted by the Minister for a specific Project.

- 1.2 Grammatical variations of the above terms have similar meanings. Words importing the singular number only shall include the plural and vice versa.

2. REPRESENTATIONS AND WARRANTIES

- 2.1 The Proponent represents and warrants that all factual matters contained in the Proposal and all supporting material submitted are true and accurate, and that all estimates, forecasts and other related matters involving judgement were prepared in good faith and to the best of its ability, skill and judgement.

3. COMING INTO FORCE

- 3.1 This Agreement comes into force when signed by the parties.

4. CONDUCT OF PROJECT

- 4.1 The Proponent shall carry out the Project promptly, diligently and in a professional manner and in accordance with the terms and conditions of this Agreement.
- 4.2 The Proponent shall complete the Project by **March 31, 2012**, unless terminated earlier pursuant to the provisions of this Agreement.
- 4.3 The Proponent shall comply with all applicable federal, provincial and municipal laws in relation to the Project.
- 4.4 The Proponent shall provide any information requested by Canada to satisfy its obligations under the *Canadian Environmental Assessment Act* as a result of the Project. The Proponent shall notify Canada of any changes to the Project that could impact on the potential environmental effects assessed for the Project.
- 4.5 The Proponent agrees to undertake all mitigation measures arising out of an environmental assessment or project screening conducted to comply with the *Canadian Environmental Assessment Act* as a result of the Project.

5. CONTRIBUTIONS

- 5.1 Notwithstanding any other provision of this Agreement, Canada's liability under this Agreement shall not in any circumstances exceed **(three hundred thousand dollars) \$300,000.00**.
- 5.2 Subject to the terms and conditions of this Agreement, Canada shall make a contribution to the Proponent toward the Eligible Costs of the Project.
- 5.3 In order to be eligible to receive a contribution as described herein, **the Proponent must submit its final claim for payment on or before May 30th, 2012.**
- 5.4 Canada may adjust its contribution by such an amount as the Minister may decide if the Proponent receives more than or less than the contributions or payments in respect of the Project covered by this Agreement than those named in its Proposal.

5.5 The Proponent shall declare to the Minister any amounts owing under any legislation or contribution agreements by the Proponent to Canada and Canada may set-off any such amounts owing to Canada.

6. METHOD OF PAYMENT

6.1 Subject to the terms and conditions of this Agreement, following receipt of a claim, acceptable to the Minister, for payment of Eligible Costs Incurred by the Proponent, accompanied by copies of documents in accordance with the Schedule C or as otherwise requested by the Minister, Canada shall pay its contribution towards the Eligible Costs of the Project.

6.2 Canada shall withhold ten percent (10%) from any payment under this Agreement until:

- a) the Project requirements for each Fiscal Year have been completed to the satisfaction of the Minister;
- b) an annual report documenting the completion of the Project for a given Fiscal Year has been received and approved by the Minister;
- c) the Proponent has certified, in the manner set out in Schedule D, that all claims for the payment of Eligible Costs of the Project have been for a given Fiscal Year Incurred and Paid by the Proponent; and
- d) the Minister has approved an annual statement of Eligible Costs Incurred and Paid in respect of the Project.

6.3 In order to receive payment of Eligible Costs Incurred, the Proponent shall submit claims for payment as described in Schedule C.

6.4 Notwithstanding paragraph 24.1, following receipt of a written request from the Proponent in accordance with Article 23 (Notices), Canada may approve in writing at its sole discretion an extension of up to thirty (30) calendar days to submit any claim or any report required to be submitted in accordance with this Agreement.

7. ACCOUNTS AND AUDIT

7.1 Prior to the Completion Date of the Project and for three (3) years thereafter the Proponent shall:

- a) keep proper books, accounts, and records of its revenue received and expenses Incurred and Paid in connection with the Project and shall keep its invoices, receipts, and vouchers relating thereto;
- b) keep proper and accurate records relating to the environmental impact (if any) of the Project;
- c) on demand, make available to Canada such books, accounts, records, invoices, receipts, and vouchers referred to above and permit Canada to examine and audit and take copies and extracts from such documents; and
- d) allow Canada, at Canada's discretion, to conduct a technical audit to verify that the proposed measures outlined in Schedule A were implemented in accordance with this Agreement.

7.2 If, at any time, any discrepancy is identified between the amounts paid by Canada and the amounts actually payable under this Agreement, the appropriate adjustments shall be promptly made between the parties. If there has been an overpayment by Canada, the amount of the overpayment shall constitute a debt due to Canada and may be so recovered.

8. INTELLECTUAL PROPERTY

8.1 All Intellectual Property that arises in the course of the Project shall vest in the Proponent.

8.2 The Proponent hereby grants to Canada a non-exclusive, irrevocable, world-wide, free and royalty-free licence in perpetuity to use or sublicense the use of any such Intellectual Property for non-commercial governmental purposes.

- 8.3 The Proponent shall supply to Canada the reports and documents described in Schedule C or as otherwise required by the Minister under Article 12 (Reports), and the Proponent hereby grants to Canada a non-exclusive, irrevocable, world-wide, free and royalty-free licence in perpetuity to use and modify such reports and documents, excluding any scientific and research reports, for non-commercial governmental purposes.

9. **INDEMNITY**

- 9.1 The Proponent shall indemnify and save harmless Canada and its ministers, employees and agents, from any and all claims, demands, losses, costs (including lawyers' fees), damages, actions or proceedings resulting from or related to any wilful misconduct or negligent act or omission of the Proponent or its employees and agents in the performance of this Agreement, except to the extent caused by a breach of duty of Canada or its ministers, employees and agents.
- 9.2 The Proponent shall indemnify and save harmless Canada and its ministers, employees and agents, from any and all claims, demands, losses, costs (including lawyers' fees), damages, actions or proceedings resulting from or related to any claim, demand or action made by a third party against them or any of them based upon Canada's capacity as a provider of financial assistance under this Agreement, including, without limitation, any claim in respect of materials or services provided by a third party to the Proponent or to a subcontractor of the Proponent.
- 9.3 The Proponent shall indemnify and save harmless Canada and its ministers, employees and agents, from any and all claims, demands, losses, costs (including lawyers' fees), damages, actions or proceedings resulting from or related to the Proponent or its employees and agents entering into a loan, capital lease or other long term obligation in relation to the Project.

10. **DEFAULT**

- 10.1 If, in the opinion of the Minister, there has been a misrepresentation or a breach of warranty under Article 2 (Representations and Warranties) or the Proponent fails to proceed diligently with the Project, or is otherwise in default in carrying out any of the terms, conditions, covenants, or obligations of this Agreement, or if the Proponent becomes bankrupt or insolvent, or has a receiving order made against it (either under the *Bankruptcy and Insolvency Act* or otherwise), or a receiver is appointed, or the Proponent makes an assignment for the benefit of creditors, or if an Order is made or a Resolution passed for the winding up of the Proponent, or if the Proponent takes the benefit of any statute for the time being in force relating to bankrupt or insolvent debtors, the Minister may, by giving notice in writing to the Proponent, exercise any or all of the following remedies:
- a) terminate the whole or any part of this Agreement;
 - b) terminate the obligation on the part of Canada to pay any monies in respect of the Project, including monies due or accruing due; and
 - c) direct the Proponent to repay forthwith all or any part of monies paid by Canada pursuant to this Agreement and that amount is a debt due to Canada and may be so recovered.
- 10.2 In the event of the termination of this Agreement by the Minister under Paragraph 10.1, Canada may, in the discretion of the Minister, pay to the Proponent Canada's share of the Eligible Costs of the Project completed to the date of termination.

11. **ACCESS**

- 11.1 The Proponent shall ensure that the Minister has access during normal working hours to any premises or place where the Project is being carried out for the purposes of inspecting and assessing the progress of the Project and all matters pertaining thereto.

12. REPORTS

- 12.1 The Proponent shall submit for each Fiscal Year Project reports satisfactory to the Minister in accordance with the provisions of Schedule C or as otherwise requested by the Minister. For clarity, this article does not refer to scientific and research reports.
- 12.2 Upon completion of the Project for each Fiscal Year, the Proponent shall provide the Minister with a declaration as to the total amount of contributions or payments the Proponent received in respect of the Project.

13. DISPOSITION OF PROPERTY

- 13.1 If, prior to the Completion Date of the Project and for three (3) years thereafter, the Proponent sells, leases or otherwise disposes of any property other than Intellectual Property, where the cost of the property is part of the Eligible Costs under the Project to which Canada has contributed under this Agreement, the Proponent shall immediately notify the Minister in writing of such sale, lease or disposition and, if the Minister so requires, the Proponent shall share with Canada the proceeds of the disposition in the same ratio as that of Canada's contribution to the purchase of the property, except that Canada's share shall not exceed its contribution under this Agreement.

14. SUBCONTRACTS

- 14.1 The Proponent shall not subcontract all or any part of the Project funded by Canada unless the Proponent has obtained the prior written consent of the Minister, or except as provided in the Proposal. Every subcontract entered into by the Proponent shall provide that the subcontractor shall comply with the terms and conditions of this Agreement, which are applicable to the subcontract. For greater certainty, for the purposes of this Article, there is no privity of contract between Canada and any of the Proponent's subcontractors; as such, the selection and amendment of any of Proponent's subcontractors as may be listed in the Proposal is the sole responsibility of the Proponent and is not subject to the Minister's consent.

15. LEGAL RELATIONSHIP

- 15.1 Nothing contained in this Agreement shall create the relationship of principal and agent, employer and employee, partnership or joint venture between the Parties.
- 15.2 The Proponent shall not make any representation that:
- a) the Proponent is an agent of Canada; or
 - b) could reasonably lead any member of the public to believe that the Proponent or its contractors are agents of Canada.

16. ACKNOWLEDGEMENT

- 16.1 The Proponent will acknowledge the financial support of Canada in all public information produced as part of the Project.

17. TIME OF ESSENCE

- 17.1 Time is of the essence with respect to all provisions of this Agreement that specify a time for performance.

18. MEMBERS OF PARLIAMENT

- 18.1 No Member of the House of Commons or Senate shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

19. CONFLICT OF INTEREST

- 19.1 It is a term of this Agreement that no public servant or public office holder, either currently or formerly employed by a federal entity, and to whom the *Conflict of Interest Act*, the *Conflict of Interest and Post-Employment Code for Public Office Holders* or the *Values and Ethics Code for the Public Service* applies, shall derive any direct or indirect benefit from the Agreement unless the provision or receipt of such benefits is in compliance with such legislation and codes; and that no member of the Senate or the House of Commons shall be admitted to any share or part of the agreement, or to any benefit arising from it, that is not otherwise available to the general public.
- 19.2 If any individual working for the Proponent formerly provided consultancy services to the Minister that are related to this Agreement, particularly any services associated with developing the Agreement or developing the Project which is the subject of this Agreement, the Proponent is considered to be in a real, perceived, or potential conflict of interest situation.
- 19.3 If a conflict of interest situation arises during the Agreement the Proponent shall notify the Minister, in the manner prescribed in Paragraph 23.1. Upon request, the Proponent shall notify the Minister of all reasonable steps taken to identify, avoid, prevent, and where it exists, resolve any conflict of interest situation.
- 19.4 The Minister may investigate a real, perceived, or potential conflict of interest and take such steps and measures as the Minister considers appropriate, including without limitation: informing the Proponent that it is in a conflict of interest situation; requesting specific actions be taken to correct the situation; requiring the Proponent to withdraw any individual from participation in the Project for reasons of conflict of interest; suspending payments under the Agreement; or terminating the Agreement.

20. FORCE MAJEURE

- 20.1 The Parties shall not be in default or in breach of this Agreement due to any delay or failure to meet any of their obligations caused by or arising from any event beyond their reasonable control and without their fault or negligence, including any act of God or other cause which delays or frustrates the performance of this Agreement (a "force majeure event"). If a force majeure event frustrates the performance of this Agreement, Canada will only be liable for its proportionate share of the Eligible Costs Incurred and Paid to the date of the occurrence of the event.
- 20.2 The performance of the obligation affected by a "force majeure event" as set out in Paragraph 20.1, shall be delayed by the length of time over which the event lasted. However, should the interruption continue for more than thirty (30) days, this Agreement may be terminated by Canada.
- 20.3 Should either party claim the existence of a "force majeure event" as set out in Paragraph 20.1, prompt notice thereof shall be given to the other party and the party claiming the existence of a "force majeure event" shall have the obligation to provide proof of such event and use its best efforts to mitigate any damages to the other party.

21. GOVERNING LAW

- 21.1 This Agreement shall be interpreted in accordance with the applicable federal laws and the laws in force in the Province of Alberta.

22. ASSIGNMENT

- 22.1 This Agreement shall not be assigned in whole or in part by the Proponent without the prior written consent of the Minister and any assignment made without that consent is void and of no effect.

23. NOTICES

- 23.1 The claims for payment, requests, notices, and information referred to in this Agreement shall be sent in writing or by any method of telecommunication and, unless notice to the contrary is given, shall be addressed to the Party concerned at the following address:

To Canada:

Samuel Blais
Senior Economist,
Natural Resources Canada
Office of Energy Efficiency
B3-18th Floor, 580 Booth Street
Ottawa, Ontario
K1A 0E4

Telephone: (613) 995-4179
Facsimile: (613) 947-4120
E-mail: Samuel.Blais@NRCan-RNCan.gc.ca

To the Proponent:

For technical/research matters
Julie Stephens
Assistant Director
Research Services Office
Governors of the University of Alberta
222 Campus Tower
8625-112 Street
Edmonton, Alberta
T6G 2E1

Telephone: (780) 492-5787
Facsimile: (780) 492-0949
E-mail: julie.stephens@ualberta.ca

CHEQUES SHOULD BE MADE PAYABLE TO: The Governors of the University of Alberta AND FORWARDED TO THE FOLLOWING ADDRESS:

Financial Services
University of Alberta
3rd Floor, Administration Building
Edmonton, Alberta
Canada T6G 2M7
ATTENTION: RESEARCH RECEIVABLES

- 23.2 Notices, requests and documents are deemed to have been received, if sent by registered mail, when the postal receipt is acknowledged by the other Party; by facsimile or electronic mail, when transmitted and receipt is confirmed; and by messenger or specialized courier agency, when delivered.

24. AMENDMENTS

- 24.1 No amendment of this Agreement or waiver of any of its terms and conditions shall be deemed valid unless effected by a written amendment signed by the Parties.

25. DISPUTE RESOLUTION

25.1 The parties may attempt to resolve any dispute arising out of or pursuant to this Agreement by recourse to the dispute resolution methods identified in the following sequence, although steps may be by-passed by mutual consent.

- 1) negotiations;
- 2) non-binding mediation or conciliation; or
- 3) binding arbitration.

25.2 If the parties cannot agree on any of the foregoing dispute resolution mechanisms, either party may, at any time, elect to have such dispute resolved by litigation in the proper judicial forum in Canada.

25.3 Any party may within fifteen (15) days take the dispute to the next step if the parties fail to agree on the appointment or procedure referred to in this Article.

25.4 When mediation or conciliation is selected by the parties, they shall jointly appoint one impartial expert mediator or conciliator to undertake the process according to mutually agreed upon procedures.

25.5 If the parties decide to submit a dispute to arbitration, it shall be carried out pursuant to the *Commercial Arbitration Act* of Canada. The arbitral award shall be in terms of money only, and shall not include punitive damages, costs or interim measures. The parties shall attempt to appoint jointly one impartial expert arbitrator. If the parties cannot agree within thirty (30) days on the choice of an arbitrator, each party shall appoint, at its own cost, one impartial expert arbitrator and those two arbitrators shall appoint an expert third arbitrator as chairperson of an arbitral tribunal.

25.6 When one of the above steps 25.1(2) or (3) is selected to resolve a dispute, the parties shall jointly enter into a contract with the required mediator or conciliator, third party, arbitrator or arbitrators, as the case may be, to pay the costs for the desired services and to bear their own costs of participating in the process involved. The contracts referred to and contemplated by this Article shall be in the form and content as proposed by Canada.

26. APPROPRIATION

26.1 The payment of monies by Canada under this Agreement is subject to there being an appropriation by Parliament for the Fiscal Year in which the payment of monies is to be made.

26.2 Notwithstanding any other provision of this Agreement, Canada may reduce or cancel its financial contribution to the Project upon written notice to the Proponent in the event that the funding levels for the Department of Natural Resources are changed by Parliament during the term of this Agreement. In the event that Canada reduces or cancels its financial contribution, the Parties agree to amend the Project and the Eligible Costs of the Project, namely this Agreement, to take into account the reduction or cancellation of Canada's financial contribution.

27. LOBBYING ACT

27.1 The Proponent shall ensure that any person lobbying on behalf of the Proponent is registered pursuant to the *Lobbying Act* and that the fees paid to the lobbyist are not to be related to the value of the financial contribution pursuant to the terms of this Agreement.

28. SUCCESSORS AND ASSIGNS

28.1 This Agreement shall inure to the benefit of and be binding on the Parties and their respective representatives, successors and assigns.

29. OFFICIAL LANGUAGES/LANGUES OFFICIELLES

29.1 This Agreement is drawn in **English** at the request of the Parties. Les Parties ont convenu que le présent Accord soit rédigé en **anglais**.

29.2 All public information documents related to the Project prepared or paid in whole or in part by Canada must be made available in both official languages, when the Department of Natural Resources judges that this is required under the *Official Languages Act*. Tout document d'information publique préparé ou payé en tout ou en partie par le Canada ayant trait au Projet doit être offert dans les deux langues officielles, lorsque le Ministère des Ressources Naturelles le juge pertinent, conformément à la *Loi sur les langues officielles*.

30. PRIORITY OF DOCUMENTS

30.1 The wordings of the documents listed below are hereby incorporated into and form part of this Contribution Agreement. If there is a discrepancy between the wordings of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list as follows:

1. the Articles of Agreement;
2. Schedules A, B, C, and D of Agreement;
3. the Proponent's Application dated July 17, 2009.

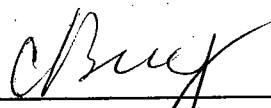
31. ENTIRE AGREEMENT

31.1 This Agreement constitutes the entire Agreement between the Parties with respect to the subject matter of this Agreement and supersedes all previous negotiations, communications, and other agreements, whether written or verbal between the parties.

IN WITNESS WHEREOF this Agreement has been executed on behalf of Her Majesty the Queen in right of Canada by an officer duly authorized by the Minister of Natural Resources and on behalf of the Proponent, by an officer duly authorized on its behalf.

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

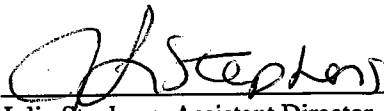
DEC 03 2009
Date



Carol Buckley, Director General
Office of Energy Efficiency, Natural Resources Canada

GOVERNORS OF THE UNIVERSITY OF ALBERTA

Nov 27, 09
Date



Julie Stephens, Assistant Director, Natural & Social Sciences
Research Services Office

SCHEDULE A

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

And

GOVERNORS OF THE UNIVERSITY OF ALBERTA

STATEMENT OF WORK

1. BACKGROUND:

On October 29, 1991, Canada announced the creation of an initiative aimed at improving the state of knowledge on energy use in Canada: the National Energy Use Database. This initiative expands and improves existing knowledge about energy consumption and efficiency at the end-use level by establishing processes for the regular and timely collection of Canada-wide reliable data on energy consumption, on the characteristics of energy using equipment and buildings, and on the behaviour and attitude of Canadian consumers with respect to energy use and the adoption of energy efficient technologies.

One element of this initiative is the creation of Database and Analysis Centres for individual energy consuming sectors to improve the accessibility, knowledge and compatibility of data. Specifically, Canada has created a Centre which is responsible for improving knowledge and accessibility of end-use data for the Canadian residential and commercial sectors (including institutions) and evaluating their impact on energy consumption and environmental quality.

The Department of Economics and the School of Business established in 2002 at the University of Alberta, the Canadian Building Energy End-Use Data and Analysis Centre (the Project) which operates as part clearinghouse, part depository, and part analysis centre for residential and commercial data from Canada as well as from other countries where applicable.

2. OBJECTIVE/PURPOSE:

The objective/purpose of this Project is to assist Canada's (as a whole) collection and analysis of energy end-use data by improving the quality, accessibility, and compatibility of the data and knowledge of the residential and commercial sector energy use as well as to evaluate the impact on energy consumption and the environment of these sectors:

- a) by operating as part clearinghouse, part depository, and part analysis centre for residential and commercial energy-related (including emissions) data;
- b) by addressing the data gaps and discrepancies in residential and commercial energy use databases;
- c) by providing residential and commercial sector specialized advice on data collection strategies resulting in effective, useful, and relevant energy use surveys and associated databases;
- d) for researchers to conduct multi-disciplined analysis of residential and commercial sector energy use, technologies, and processes to improve Canada's understanding of changes in energy use as well as to promote the development of multi-disciplined Canadian expertise (Master and Ph.D. levels) in this area of research.

3. DESCRIPTION/SCOPE:

Task 1: Direct the Operations of the Project – Director

This position involves no direct remuneration but does incur salary and accounting costs associated with teaching releases, as well as various other expenses. This task includes:

- 1) Define, monitor, review, and release research projects and reports annually.

Outputs: Provision of general guidance, direction, and quality control concerning the Project's activities.

- 2) Ensure that the Project's activities are in compliance with the terms of this Agreement, and that all expenditures of the Project are in compliance with University of Alberta policies as well as the terms of this Agreement.

Outputs: Operations in compliance with required conditions

- 3) Oversee the preparation and production of the EnerInfo newsletters.

Outputs: Quality assurance and quality control of the three newsletters per year.

- 4) Hold an annual Advisory Committee meeting, develop an annual work plan (incorporating input from discussions with Canada and other relevant organizations), and complete progress and summary reports.

Outputs: Annual Advisory Committee meeting to be held in late spring, where agenda items include updated business plan/prospectus and a work plan and expectations for the ensuing year; progress reports provided to supporting organizations / agencies as well as Advisory Committee members, in conjunction with claims submitted for payment, and to summarize Project activities when periodic Data and Analysis Centres' Directors' meetings are held.

- 5) Communicate as necessary with Canada and other sponsors concerning the Project, data issues, and various research projects.

Outputs: Enhanced collaboration and communication between the parties.

- 6) Seek support from various utilities, associations, and other local, provincial, and federal groups and organizations that may be interested in the Project's activities, to have them become and remain supporters of the Project, and maintain a list of these supporting organizations.

Outputs: Supporters of the Project and a list of supporting organizations.

- 7) Provide technical and analytical expert advice and response on issues related to the residential and commercial sector as appropriate, particularly concerning the Project's reports and research, as well as data availability and related issues.

Outputs: Provision of advice and response as requested and appropriate.

- 8) Participate in local, national and international activities as required.

Participate in various seminars, conferences, and workshops, both locally and internationally, including continued co-sponsorship of an energy research workshop at the University of Alberta, presenting research results where appropriate, and hosting national or international visitors, with the general aim of enhancing knowledge of the Project and the types of activities it undertakes, furthering its research and enhancing its expertise, and demonstrating benefits to Canadians. This activity may entail travel expenses for meetings, presentations, conferences, reviews, and workshops.

Outputs: Enhanced collaboration, knowledge and expertise benefiting the Project and its research.

- 9) Oversee the activities of the Executive Director, faculty researchers, and student researchers.

Task 2: Manage and Administer the Operations of the Project – Executive Director (supported as necessary by student, administrative, and web and programming assistance)

Each year, numerous activities are required to ensure the smooth running of the Project. The task of managing and administering the operations of the Project includes:

Coordination of the Activities

- 1) Prepare annual updates to the Project's business plan, and prepare and coordinate work plans, identifying potential bottlenecks and suggesting modifications as necessary.
- 2) Maintain timelines to ensure that research reports are completed on time.
- 3) Plan and arrange meetings, workshops, conference calls, etc., as necessary for the operations of the Project. In certain cases participation in these events may be required, especially when the Director is unavailable, in which cases this activity may entail travel expenses for meetings and workshops.
- 4) Perform the accounting of all expenditures, including assembly and maintenance of supporting documentation, and, as necessary, interact with and obtain support from Department of Economics administrators and administrative assistants and with the University of Alberta's Research Services Office (RSO), including its financial department.

- 5) Supervise and co-ordinate the activities of the human resources of the Project, particularly graduate research assistants, ensuring compliance with University of Alberta policies and terms of the Contribution Agreement, such as confidentiality, etc.
- 6) Produce draft research reports based on the results and analysis of student research. This includes assembling various components of the research and editing and checking as necessary.

Outputs 1 to 6: Project activities in compliance with the terms of this Agreement; supporting documents are available, activities completed with respect to timelines.

Public Relations

- 7) Prepare EnerInfo newsletters.
- 8) Print and distribute reports, supporting documents, EnerInfo newsletters, and other mailings as required.
- 9) Maintain correspondence with those who interact with the Project. This includes, for example, people or organizations who submit data, support the Project, and request information.
- 10) Promote the Project and its activities to various groups and organizations that may be interested, and determine relevant personnel who might be contacted by the Director for further discussions about potential involvement and/or sponsorship, and initiate, contribute to, and follow-up on discussions with such personnel.

Outputs 7 to 10: Enhanced communication and collaboration with external parties, diffusion of the Project's EnerInfo newsletters, reports and analysis, new sponsors and partners.

Material Aspects of the Operations

- 11) Ensure maintenance and replacement as necessary of all electronic equipment as well as computer software.
- 12) Purchase supplies for the Project's operations such as computing supplies, literature, books, and paper.

Outputs 11 to 12: functioning operation.

Access to Energy End-Use Data

- 13) Maintain the Project's inventory of databases and list of existing surveys on energy use in the residential and commercial (including institutions) sectors (collectively referred to as a meta database). Search for, identify, obtain if appropriate, and evaluate new databases with respect to their quality, availability, accessibility, and applicability, and if suitable include them in the meta database. Ensure public availability, and search functionality of the online meta database through the Project web portal, and suggest and oversee enhancements as necessary. This task may involve support from student assistants as well as programmers, and may involve some subcontracting for web-site development as well as certain computing and database tasks.
- 14) Maintain website and ensure reports and newsletters are available online. This task may require some programming for web layout, website support for search engines, and software updating and enhancements, which in turn may necessitate some subcontracting for web-site development and certain computing tasks.
- 15) Respond to requests from supporters, associations, groups, government agencies, consultants, other academic institutions and all others who seek information from the Project.

Outputs 13 to 15: Updated publicly searchable meta database (inventory of databases on energy use in the residential and commercial (including institutions) sectors) available online. Up-to-date website, access to all EnerInfo newsletters and public documents. Provision of information and expertise as requested.

Other

- 16) Assist with any other tasks related to the Project, as requested by the Director.

Task 3: Research and Analysis – Student researchers, Executive Director

Each year, research on various data and methodological issues, updating of the data, and specific analyses on data-related issues occur. This task, completed by researchers, supported by the Executive Director – as well as faculty and the Director who receive no direct remuneration – includes:

- 1) Student research and analysis (concentration on these issues varies each year):
 - a. Projects related to analysis of energy efficiency in the residential and commercial (including institutions) sectors.
 - b. Projects related to analysis of energy consumption in these sectors, including issues of price responsiveness and the effect, effectiveness, and potential of various public programs pertaining to energy consumption.
 - c. Projects related to the availability and adoption of new technology in these sectors.
 - d. Projects related to modelling energy consumption decisions, and evaluation of energy efficiency measures, programs, and technologies.

Outputs: Publicly-released research reports; development of student expertise in energy-related analyses.

- 2) Review relevant literature to find articles that have relevance to understanding consumer and firm behaviour pertaining to understanding residential and commercial energy use, energy efficiency, and related issues in the residential and commercial (including institutions) sectors. These are often relevant to the development of methodologies, policies and programs related to energy consumption and conservation in these sectors. Provide brief summaries/abstracts as appropriate and include in the literature section of the online meta database.

Outputs: Updated searchable inventory of relevant literature available online.

- 3) Perform end-use data updates and maintenance as required. Collection of data pertaining to energy end-use from various sources, as needed for research projects.

Outputs: Updated data available for use in research projects.

Assist with any other tasks requested by the Director or Executive Director.

4. BENEFITS:

Benefits to Stakeholders:

- a) Residential and commercial sector specific review, analysis and access to statistical applications and reports.
- b) Centralization of residential and commercial energy use, and associated emissions data, as well as international aggregate comparisons, as appropriate.
- c) A third party vehicle through which energy-related data and environmental issues can be addressed nationally and internationally.
- d) Expertise and advice on residential and commercial related energy-use data to support long-term research.

Benefits to Canada:

- a) Facilitate access to national and international databases and information on the residential and commercial sectors.
- b) Develop expert knowledge of the residential and commercial sectors and related statistics.
- c) Availability of advice on the design of residential and commercial sector data collection systems.
- d) The support of a forum on strategic data issues involving data providers and users from government, the residential and commercial sectors, and the research community.

SCHEDULE B

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

And

GOVERNORS OF THE UNIVERSITY OF ALBERTA

BUDGET AND ELIGIBLE COSTS

1. Subject to the terms and conditions of this Agreement, the Proponent shall be reimbursed for Eligible Costs Incurred following successful completion of Project requirements. Eligible Costs shall be approved in accordance with Treasury Board Guidelines associated with the execution of the various tasks as described in Schedule A.
2. Subject to the terms and conditions of this Agreement, Canada shall make a contribution to the Proponent toward the Eligible Costs of the Project Incurred between the date of signature of the Agreement by Canada and **March 31, 2012**, unless terminated earlier pursuant to the provisions of this Agreement
3. **CANADA'S TOTAL OBLIGATION AND CONTRIBUTION (three hundred thousand dollars) \$300,000.00 in total.**
4. Subject to the terms and conditions of this Agreement, Canada's contribution shall be allocated to the Proponent in the following amounts by Fiscal Year:

Fiscal Year	Canada's Amount
2009-2010	\$100,000
2010-2011	\$100,000
2011-2012	\$100,000

5. **Other contributors:**

In-kind contributions by Canada can be reduced or terminated subject to either Article 26 of this Agreement or at the discretion of the Minister and upon written notice by Canada.

	Total 2009-2012	In Kind 2009-2012
Proponent		\$100,000.00
School of Energy and the Environment (SEE)	\$60,000	
Other groups (to be determined)		
Canada (EnerInfo translation)		\$4,500.00
Total	\$60,000.00	\$104,500.00

6. **Budget Description by Task:**

Canada	Fiscal Year 2009-2010	Fiscal Year 2010-2011	Fiscal Year 2011-2012
Task 1: Direct the operations of the Project	\$17,000	\$17,000	\$17,000
Task 2: Manage and administer the operations of the Project	\$45,000	\$60,000	\$60,000
Task 3: Research and analysis	\$38,000	\$23,000	\$23,000
Total	\$100,000.00	\$100,000.00	\$100,000.00

7. **Eligible Costs:**

In accordance with the departmental GST/PST/HST certification form, the reimbursable Provincial Sales Tax, the Goods and Services Tax and Harmonized Sales Tax costs must be net of any tax rebate to which the Proponent is entitled.

Eligible Costs will be directly related to approved projects and will include:

- staff salaries and benefits;
- travel expenses;
- meeting expenses;
- office operating and maintenance expenditures;
- office equipment and furniture;
- professional and technical services;
- transportation rentals and leases;
- communications materials;
- facility rentals; and
- accounting services.

8. Notwithstanding Article 24, provided Canada's total contribution of **one hundred thousand dollars (\$100,000.00)** in each Fiscal Year is not exceeded, the funds allocated for any budget task may be adjusted, in each Fiscal Year, by the Proponent up to and including a maximum of twenty percent (20%) without notice having to be provided to Canada. At the time of submitting a claim for payment, the Proponent must provide Canada with a revised budget. Any adjustment greater than twenty percent (20%) shall require the submission of a revised budget to Canada and written approval of the Minister in accordance with the methods described in Article 23 of this Agreement.

SCHEDULE C

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

And

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REPORTS

A. Payment Claims:

The Proponent shall provide the following documentation when submitting each claim for payment **no later than (sixty) 60 days** after the end of each semester (six months) i.e. **November 30 and May 30 of each year**:

- i) a financial report signed by the Chief Financial Officer or Duly Authorized Officer of the organization which outlines Eligible Costs Incurred by task;

Subject to the terms and conditions of this Agreement, if the Proponent cannot submit a claim for payment on or before March 31 of a Fiscal Year, the Proponent shall **no later than April 5**, provide the Minister with a signed statement of anticipated Eligible Costs Incurred up to March 31, in order for the Minister to establish a Payable at Year-End.

The claim for payment will cover expenses incurred for the following periods:

- a. Date of signing of the agreement by both parties to March 31, 2010 and shall be submitted **no later than May 30, 2010**.
- b. April 1, 2010 to September 30, 2010 and shall be submitted **no later than November 30, 2010**.
- c. October 1, 2010 to March 31, 2011 and shall be submitted **no later than May 30, 2011**.
- d. April 1, 2011 to September 30, 2011 and shall be submitted **no later than November 30, 2011**.
- e. October 1, 2011 to March 31, 2012 and shall be submitted **no later than May 30, 2012**.

B. On-going Progress/Technical Reports*:

The Proponent shall submit a progress report with the claim for payment. The progress report shall include:

- a description of activities that occurred during the semester;
- an update on the progress towards the completion of the Project; and
- a budget demonstrating how the contribution was spent over the period.

These progress reports shall cover the following period

- a. April 1, 2010 to September 30, 2010 and shall be submitted **no later than November 30, 2010**.
- b. April 1, 2011 to September 30, 2011 and shall be submitted **no later than November 30, 2011**.

C. Final Reports (Financial and Progress/Technical)*:

- i) The Proponent shall, no later than **May 30 of a given year**, submit a financial report that shall demonstrate how the contribution was spent. As specified in the Paragraph 12.2 of this Agreement, the Proponent shall provide the Minister with a declaration as to the total amount of contributions or payments received in respect of the Project.
- ii) The Proponent shall, no later than **May 30 of any given year**, provide a final narrative report to describe how its activities have contributed to the achievement of the benefits of the Project as described in Schedule A.

- a description of activities that occurred during the semester;
- an update on the progress towards the completion of the Project.

* For clarity, these requirements do not refer to scientific and research reports.

SCHEDULE D

To the Agreement between

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CERTIFICATION OF COSTS INCURRED AND PAID

1. Pursuant to Article 6 of this Agreement, the Proponent must, no later than **May 30 of any given year**, submit the following certification in writing on company letterhead and signed by the duly authorized officer as follows.

“All claims for payment submitted to Canada for the reimbursement of Eligible Costs of the Project have been Incurred and Paid by GOVERNORS OF THE UNIVERSITY OF ALBERTA (“Proponent”) as of the date of this certification by the undersigned and all supporting documents to this effect have been kept in our records and will be made available to the Minister (NRCAN) upon request.”

“I _____ an officer, of GOVERNORS OF THE UNIVERSITY OF ALBERTA, duly authorized on behalf of the Proponent hereby represent and warrant that the above noted declaration is true and accurate. I understand that if, in the opinion of the Minister, there has been a misrepresentation or a breach of this warranty, the Minister could place the Proponent in default of the terms, conditions or obligations of the Agreement, and may exercise the Minister’s right to terminate this Agreement, and direct the Proponent to repay forthwith all or any part of the monies paid by Canada pursuant to this Agreement.”