



CO² COLLABORATION

Together, we're cutting carbon emissions.

Message from the Chair	2
Message from the Scientific Director	4
Message from the Managing Director	5
Overview	6
Research Highlights	10
Board and Research Management Committee Members	13
CMC-Funded Investigators and Affiliated Organizations	14
Notes to Financial Statements	19



NCE RCE

Networks of Centres | Réseaux de centres
of Excellence of Canada | d'excellence du Canada



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It's been a phenomenal year.

As a new organization, one of our most difficult challenges has been building a network. Prior to Carbon Management Canada, there was no common association among the broad and diverse range of disciplines and experts in the emerging field of carbon management. We now hold as one of our key successes the development of a robust community of researchers and industry and government stakeholders all interested in this burgeoning area.

With this network solidly in place, and with many of our research projects starting to show exciting results, the last year has seen CMC moving into a new phase of activity. While maintaining our focus on research funding, we moved to drive forward innovation by fostering and supporting engagement between researchers and practitioners.

We are delighted and proud to share our achievements with you in the pages of this annual report. It reflects our determination to contribute solutions to carbon management challenges.

Message from the Chair

My first year as Chair of the Carbon Management Canada board has been a busy and exciting period. The continued focus at the network has been on developing collaborative relationships with and between researchers, industries and other stakeholder organizations in Canada and around the world. Collaboration is key as the world moves forward into an era of carbon restraint. Carbon Management Canada will continue to play a major role drawing groups and individuals together to develop collaborative networks and discover innovative solutions to reduce carbon emissions.

In the past fiscal year, CMC focused tightly on pursuing partnerships and broadening its networks. We have been actively pursuing a strategic relationship with Canada's Oil Sands Innovation Alliance (COSIA). CMC seeks to develop with this consortium of 13 energy companies, a globally significant precedent for academic-industry collaboration.

On the international stage, the reputation of CMC and its researchers is growing. In August 2011, CMC, Alberta Innovates Energy and Environment Solutions, and the Canadian Clean Power Coalition hosted a workshop attended by four major Japanese companies and the Japan Coal Energy Centre. Discussions were held with the Stanford Centre for Carbon Sequestration about the establishment of an ongoing relationship involving collaborative research, joint workshops and student exchanges. In the fall of 2012, we will be co-hosting the MIT Global Change Forum with Suncor and the MIT Joint Program on the Science and Policy of Global Change. This distinguished event demonstrates the exceptional benefits of developing key collaborative relationships.

On the research side, our investigators and their work continue to gain national and international acclaim. There are 36 national and international universities, 53 industries, 6 federal agencies, 10 provincial departments or agencies, and 18 national and international organizations involved in CMC research projects. This phenomenal growth will only accelerate as more of our projects produce high profile outputs.

This has also been a year of change. After discussions, Carbon Management Canada and the Networks of Centres of Excellence (NCE) have decided to part ways as of June 30, 2013. It was agreed by both parties that the model of the NCE program was not a good fit for the program that CMC has set for itself. Business will continue as usual for CMC and its research projects. Both the Alberta government and industry sponsors continue to support CMC and its mandate. The University of Calgary will continue to host CMC on its campus, and to play a pivotal role in CMC as it moves forward. The Canadian landscape needs a national organization like CMC that is focused on developing and moving to market the technologies, the people and the policies to reduce carbon emissions. CMC is unique in that it provides a bridge between academics in the field of carbon

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*Carbon Management Canada
was selected as the first
Canadian organization to
co-host the prestigious MIT
Global Change Forum (Sept.
26 to 28, 2012 in Banff, AB).*
.....

management and practitioners in the fossil energy sector. The need for CMC, with its focus on transfer-to-practice and collaboration, will continue to grow as the world continues to search for ways to reduce carbon emissions.

And finally, there has been change on our board, with some members leaving and others coming in. I would like to thank a number of former board members for their contributions and expert guidance. It is a pleasure working with all board members, who are experts in their fields and bring a high level of knowledge to the table. This year, we said goodbye to Marlo Reynolds, the Pembina Institute; John Meddings and Robert Hache, University of Calgary; Nick Olds, ConocoPhillips Canada; Scott Rennie, Schlumberger Carbon Services; Doug MacLeod, Capital Power; and Brian Launder, University of Manchester. Please know your efforts on behalf of Carbon Management Canada have been appreciated.

We welcome to the board Dr. Frank Mauer, Associate Vice President (Research), University of Calgary (designate for Dr. Edward McCauley, Vice President Research); Ed Whittingham, Executive Director, Pembina Institute; Cristian Ches, PhD candidate, University of Toronto; Todd Gilchrist, Vice President, Environmental Health and Safety, Capital Power; Dwight Peters, Americas Business Manager, Schlumberger Carbon Services; John Loughhead, Executive Director, UK Energy Research Centre; and John LeGrow, Vice President, Oil Sands Strategy, Planning and Integration, ConocoPhillips Canada.

As we move forward into this transitional year, I am confident that we have in place the people, the projects and the momentum to achieve our goals. By working together, we will continue to grow the network and deliver valuable research.

Sincerely,

Gordon Lambert
Chair

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*CMC researchers made over
300 contributions in the form of
presentations, and articles in refereed,
non-refereed and specialty publications.*
.....

Message from the Scientific Director

2011-12 was not the easiest year for the development of carbon management strategies and technologies. The world economic situation and political uncertainties in terms of policy in this area have meant development and investment in technology to mitigate greenhouse gas (GHG) emissions have slowed and this has adversely affected key demonstration projects in Canada.

The management of carbon emissions is a long game and despite the external political climate, this has been an exciting year of growth and development for Carbon Management Canada. In the previous two fiscal years, we funded 36 collaborative research projects worth a total of \$18 million. In this last fiscal year, we have watched with enthusiasm and anticipation as those projects have started to produce results that are receiving significant interest and take-up from industry. Last fall, CMC put out a third call for research proposals that will be awarded in the 2012-13 fiscal year. When the political climate changes, as it will, to progress emissions reductions technologies at a faster pace, CMC will have built a strong foundation for the Canadian academy to do its part in solving these grand challenges.

A large part of the CMC mandate is to deliver innovative, practical and deployable solutions to real world problems. In this regard, we have made significant progress and have seen a high degree of commercialization interest expressed by national and international governments, industries and other organizations. Canadian universities are in the top 10 in terms of basic research outputs but historically have not been efficient or effective at converting much of this to practical technology. There are many reasons for this, including cultural issues, and CMC has worked with our research stars to help those new to and those experienced in technology delivery to transition some of their research to technology development and deployment. While application is a focus, the division between basic and applied research is artificial and several research groups also made substantial advances of a fundamental nature with several CMC researchers achieving awards including election to the Royal Society of Canada in 2011–12.

Looking forward, there are important changes coming in the next year as we move out of the NCE program. For instance, discussions with new industry players, such as Canada's Oil Sands Innovation Alliance (COSIA), are underway on how CMC can play its role in an integrated Canadian research and innovation system appropriate for the 21st century. Priming the innovation pump with ideas, new concepts, discoveries and a new generation of researchers and innovators is crucial and that is a major role of the universities. CMC is proud to be part of a nascent innovation sector knitting industry, society, government and academia together in a coordinated manner as never before.

Transitioning to a new, independent entity opens the doors to a wide range of opportunities and relationships. We are excited about moving ahead but understand that there is a substantial amount of work to be done. As we enter this new phase, we thank all of our industry partners, investigators and highly qualified personnel (HQP) for their continued support of this great network and its exceptional researchers and programs of research.

Have a great year,

Dr. Steve Larter
Scientific Director

Message from the Managing Director

Carbon Management Canada is now entering its third year of operations. Year after year we grow the depth and breadth of this tremendously effective research network. Consistent with our objective of having real impact on carbon emissions, research teams from the first two rounds of projects are already producing high-value research products. These are showing great promise as they transition from the lab to the world of practice, in both the technical and social sciences fields. It is worth noting that some of the research products and technologies attracting commercial interest have multiple applications beyond that for which they were originally developed.

As Gord and Steve mentioned in their respective messages, CMC is now transitioning to a new business model that will allow us to increase our overall impact in addressing industrial scale GHG emission challenges. New opportunities to take this independent, practitioner-facing approach and linking with substantial industry, federal, provincial and NGO players will find CMC contributing in new and more powerful ways.

At the same time, the administrative team has grown to reflect our move toward greater emphasis on delivery of value to the practitioner community, whether industry or government. As the administrative processes for managing and evaluating the growing portfolio of research projects become more streamlined and automated, the emphasis shifts toward identifying and supporting transfer-to-practice opportunities wherever they arise.

What began as Knowledge Sharing activities focused on Carbon Capture and Sequestration projects are developing into other areas of knowledge sharing. Listening closely to the guidance of our industry steering committee we have developed a model of practitioner-practitioner sharing in small, closed workshop settings. While the approach continues to be refined, the very open comparison of notes among diverse industry players that takes place in these safe environments has received positive support from participants. We look forward to continuing to develop more of these events in the coming year and broadening into other topic areas.

2012–13 promises to be an exciting year as we continue to develop and evolve new ways of delivering value to our stakeholder community, including academic researchers and their institutions, industry and government. Our excellent Board has done a great job of providing support and guidance through the past couple of years. They continue to encourage us to reach higher, seeing expanding opportunities as we go forward.

As we move together into a future of ever-reducing carbon emissions, we welcome your input. How can we better leverage the tremendous creative power of the research community to fuel the Canadian and global engine of innovation?

Sincerely,

Richard Adamson
Managing Director

Overview

The 2011-12 year has been one of exceptional growth and development for Carbon Management Canada (CMC). Our 36 research projects are starting to demonstrate exciting results and have been receiving significant industry interest. We have also been working diligently to grow our network and the results of these efforts are apparent.

MILESTONES

Research Excellence

CMC has created a diverse, robust and functional research portfolio of 36 interdisciplinary projects worth a total funding commitment of \$18 million. This portfolio is producing high profile outputs and is adding capacity to create solutions to our carbon management challenges. By the end of the reporting period, Network investigators had produced over 300 research outputs including publications, conference proceedings, theses, IP disclosures and one book.

The high-caliber work of our researchers is drawing attention. We have ties to 38 national and international academic institutions. There are 53 companies, 16 federal and provincial departments and agencies, and 18 other stakeholder organizations involved in network-funded projects. Internal assessment of the program indicates excellence across the whole portfolio. This claim is supported by our internationally acclaimed board members, which includes members of international academies, internationally recognized researchers from leading carbon management groups in the United States and Europe, and Natural Resources Canada's chief scientist.

We were very excited to issue a third funding call that resulted in 95 letters of intent with 42 research proposals submitted. For the first time, the process was automated and executed through an in-house developed Carbon Commons portal that streamlined and simplified the procedure. The results of the Round 3 competition will be announced in the 2012-13 fiscal year.

For details on some of our key research projects see Research Highlights on page 10.

Transfer-to-Practice

Moving results into the world of practice is essential to advancing the global effort to reduce carbon emissions. To this end, we have made progress linking industry with research. Transfer-to-practice achievements include: three technical disclosures; one issued patent; five business concepts under development; two spin-out companies being created; two HQP-generated spin-outs; one field piloted technology being demonstrated with a major industry partner; and three pilots under discussion.

CMC has also hired a senior manager of business development to engage industry and develop and execute business development strategies. Alessandro Biglioli has extensive experience with innovation and its processes through acquisition, creation, evaluation and management of new technologies and products in the high-tech start-up space. He will be responsible for landscaping the market and targeting strategies for high priority areas.

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*Dr. Sushanta Mitra, University
of Alberta, received the 2011
American Society of Mechanical
Engineers' Outstanding
Researcher Award.*
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Naeema Bhyat is our new Transfer-to-Practice Coach, as well as the HQP Coordinator. As coach, Bhyat will be liaising with CMC's Technology Advisory Committee and CMC researchers to identify transfer-to-practice opportunities.

Networking and Outreach

Solutions to the climate energy challenge are complex and require the input of many individuals and organizations, as well as public awareness of the issues and acceptance of the solutions. Carbon Management Canada has been working diligently to forge connections with organizations in Canada and around the world and to broadcast news of our researchers and their work to the public, industry and government.

In Canada, CMC has been engaged with Canada's Oil Sands Innovation Alliance (COSIA), a new industrial consortium of 13 of Canada's leading oil sands companies focused on improvement of environmental performance in the sector. CMC is pursuing an alliance with COSIA that could set a globally significant precedent for academic-industry collaboration.

An example of a successful partnership has been CMC's relationship with the International Performance Assessment Centre for the Geologic Storage of Carbon Dioxide (IPAC-CO₂). CMC supported IPAC-CO₂ in its independent technical study involving multiple gas, water and soil samples of the Kerr farm site in Saskatchewan, where landowners suggested CO₂ from Cenovus' nearby Enhanced Oil Recovery (EOR) operation was leaking. CMC coordinated the international independent expert panel to review the Test and Quality Assurance Plan and the Report. The resulting report concluded CO₂ was not leaking from the EOR site. CMC also supported an IPAC-driven national survey that examined public awareness and acceptance of Carbon Capture and Storage (CCS). The survey found that public acceptance of CCS as a tool to combat climate change was higher in Saskatchewan and Alberta than in other parts of the country.

Bringing news and information about CMC and its researchers to the public and to industry is a key part of our strategy to grow and find new partners. A particularly successful use of media has been CMC's program of publicizing new research results and the academic publications of investigators. For instance, a CMC initiated press release on an academic paper published by CMC researcher and University of Toronto Professor David Sinton generated industry interest in Sinton's CMC-sponsored work. Other media releases have seen pickup by publications and websites in Canada and around in the world. While these publications include the popular press, news has also been broadcast and published by industry trade journals in mining, energy, nanotechnology, engineering, chemical engineering and environmental protection. In the reporting year, over 60 stories about CMC researchers and projects appeared on websites and in publications around the world.

CMC also co-hosted with TELUS Spark Science Centre a science café on carbon capture and storage that was attended by about 100 people in a Calgary pub. A monthly electronic newsletter was launched that now has over 400 subscribers and an updated website went live. CMC and its researchers also hosted, sponsored and attended a number of workshops and national and international conferences.

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*Dr. Viola Birss, University of
Calgary, was elected in 2011
as a Royal Society of Canada
Fellow, the country's highest
academic honor in the Arts,
Humanities and Sciences.*
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Highly Qualified Personnel (HQP)

A key focus of CMC's mandate is to broaden and enhance the experience of our over 200 developing researchers (students and postdocs). Training and educating students to take up leadership roles in research and industry is key in the search for solutions to the global issue of carbon management. At CMC we strive to add value to the experience of HQP with workshops, courses and activities that promote networking with industry.

We count among our measures of success: a Suncor-sponsored oil sands field seminar at Fort McMurray, HQP-focused workshops on innovation, spinoff companies and life cycle analysis, and the addition of HQP representatives on the Board of Directors and the HQP Development Committee. In conjunction with CMC's annual scientific conference (in Gatineau, Quebec, in May 2012), two courses were held for HQP: a one-day CCS Overview Course developed by CMC's theme leads, and a two-day Organizational GHG Accounting Course offered by the GHG Management Institute. CMC has also been working with a committee of seven graduate students and post-docs to establish an early career researcher association.

The HQP Development Committee, which was established in 2010, includes members from academia, industry and human resource organizations relating to engineering, environment and petroleum industries, and two graduate students. The committee met three times in 2011 and, among its many accomplishments, provided feedback and recommendations on structuring and initiating the Knowledge Sharing Network workshop that was held in January 2012.

The committee also provided advice on the HQP resource gap analysis CMC undertook to identify post-secondary training programs relating to carbon management.

Carbon Commons

The Carbon Commons was launched by CMC and the International Performance Assessment Centre for the Geologic Storage of Carbon Dioxide (IPAC-CO₂) in April 2011. The site is a web portal designed to be a free, user-friendly platform for scientists, researchers, graduate students and industry professionals.

In the short time it has been operational, the number of users of the Commons has skyrocketed. By the end of March 2012, there were over 700 users from 34 countries and 83 separate groups. In March 2012 alone there were close to 500 unique visitors, 62% of which were returning visitors.

In addition, the recent Round 3 Funding competition was completed on an online proposal system developed in-house and hosted on the Carbon Commons. The first two competitions were manually managed and the process was extremely time-consuming and awkward both for the proponents and CMC managers. To streamline the process, a proposal management module was built in the Carbon Commons.

One particular advantage was the Letter of Intent (LOI) process. CMC's Research Management Committee was able to review the LOIs, and create online comments that were made available to the proponents. Proponents invited to submit full proposals were able to revise their approaches in light of the comments, and in one case merged with another related project.

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*Dr. David Sinton, University of Toronto,
was named a Fellow of the Canadian
Society of Mechanical Engineering.*
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The review process, which involved a large group of international reviewers, was also included in the module. Reviewers were able to access the proposals and submit their reviews through the web-enabled Carbon Commons portal. This saved considerable effort in managing the review process and in providing progress reports to the Research Management Committee. At the end of the process all applicants could also access anonymous reviews and RMC summaries through the portal with no additional effort from the management team.

The module is capable of handling multiple competitions in various stages and will be used for future competitions.

2012 Annual Scientific Conference

Close to 200 people attended this year's very successful conference in Gatineau, Quebec, at the Hilton Lac Leamy. The conference is a key vehicle to build and foster a sense of community within the network. There were numerous opportunities for informal conversations as well as formal talks that provide participants with information about CMC-funded research projects. The poster session drew over 80 posters and this year, prizes were awarded to the top presenters and teams. Winners and their posters are:

- Anna Harrison, Ian Power, Gregory Dipple and Ulrich Mayer for Accelerating carbon mineralization in mine waste using elevated CO₂ concentration;
- Stephen Healy, Karen Mascarenhas, Kristin Lutes and James Gaede for Economic prospects for carbon capture and storage in Canada: An approach using national and regional energy-economy models;
- Phong Nguyen, Hossein Fadaei and David Sinton for Characterization of porosity and permeability changes in porous carbonate limestone due to supercritical CO₂ injection;
- Jesse Coelho, Luis Melo, Ben Davies, Farid Ahmed, Bo Bao, Sonja Bhatia, Peter Wild, Martin Jun, Dave Sinton and David Risk for Distributed all-optical CO₂ sensing for field-scale subsurface carbon management detection of aqueous CO₂ in brine by long period grating fiber sensors;
- Nagu Daraboina, Duo Sun and Peter Englezos for Secure storage of impure CO₂ in the form of solid hydrate in depleted pools in northern Alberta; and
- Daniel Ritter for Hydrologic indicators of the extent of coal biodegradation under different redox conditions and coal maturity.

Experts from across Canada participated in panels on topics ranging from intellectual property to decarbonizing the oil sands to carbon pricing mechanisms. Participants also welcomed presentations from network researchers in a format that saw speakers give five-minute overviews of their projects using just five slides.

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Research from Harvard professor and University of Calgary adjunct David Keith's spinoff company, Carbon Engineering, was selected as one of 11 finalists (out of more than 2,500 entries) in the Virgin Earth Challenge \$25 million air capture prize.
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Research Highlights

CMC's existing research portfolio is producing high profile outputs, creating new value and adding capacity to create solutions to our carbon management challenges. Our delivery of solutions-focused research is evident in the progression of many projects. These range in focus from near market problem solving programs to projects aimed at developing game-changing new approaches to carbon management, or building strategic research and development capacity for Canada.

BELOW ARE HIGHLIGHTED A FEW OF CMC'S 36 OUTSTANDING RESEARCH PROJECTS.

Carbon mineralization in mine waste

Dr. Greg Dipple, Team Lead

Professor and Head of Fluid-Rock Interactions

Department of Earth, Ocean and Atmospheric Sciences

University of British Columbia

The focus of this project is to accelerate carbon mineralization in ultramafic mine tailings and to assess CO₂ storage potential in mine waste in Canada. Digging, trucking and processing make mining an energy-intensive industry that emits greenhouse gases. But this research may offer a long-term, stable strategy of storing atmospheric CO₂ and could also turn some large mines into net carbon sinks, turning mine waste into a resource by absorbing the carbon dioxide emissions of other industries.

Results thus far have been exciting, and there is significant industry interest in developing the technology for carbon sequestration. Using pure CO₂ gas, brucite carbonation can be accelerated 2,400-fold over using lab air, which is ~400 ppm CO₂. Achievement of this rate at mine scale would offset annual mine emissions in excess of 50%. In addition, an in-depth source-sink inventory has shown that unmined bedrock capacity for CO₂ mineralization in ultramafic rocks throughout Canada exceeds 4 tera-tonnes CO₂. The study also shows that ultramafic rock-hosted mines and bedrock occurrences represent a significant opportunity for carbon mitigation in areas outside of the sedimentary basins.

Rapid routes to carbon-efficient recovery of bitumen and heavy oil

Ian Gates, Team Lead

Department of Chemical and Petroleum Engineering

University of Calgary

Ian Gates and his team are working to develop a reservoir production machine that will control reservoir infrastructure to reduce steam-oil ratios (SOR), resulting in operations that are an estimated 20 to 25% more efficient in terms of CO₂, energy and water. There are also reduced operating costs through reduced energy input. Reservoir production machines would allow Canada to be a leader

in automated, controlled, more environmentally friendly steam assisted gravity drainage (SAGD) and cyclic steam stimulation (CSS) production.

Essentially, the machines will monitor and control SAGD and CSS processes, making operational adjustments to hit pre-defined targets. These minor changes in operating process design will yield benefits such as reduced CO₂ emissions, less energy used to extract oil, and reduced water input. Gates and

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*Dr. Shi-Ling Hsu, University of British Columbia, published the book *The Case for a Carbon Tax: Getting Past our Hang-ups to Effective Climate Policy* (2011, Island Press).*
.....

his team will analyze major CO₂ emission sources from existing thermal bitumen recovery processes, and then identify carbon reduction targets. Integrated fluids and reservoir characterization, multi-well control algorithms and injection strategies will then be used to reduce carbon emissions in existing processes.

Distributed all-optical CO₂ sensing for field-scale subsurface carbon management

Peter Wild, Team Lead

Executive Director, Institute for Integrated Energy Systems

University of Victoria

This technology development project will lead to direct measurement of CO₂ saturation in underground geological sequestration sites using new fibre-optic sensors that directly measure changes in the refractive index of pore fluids. The goal is to implement this technology for carbon capture and storage monitoring, not only in the storage formation, but also for leak detection in overlying aquifers.

It is a challenge to monitor injected CO₂ in deep locations and large storage sites due to high temperatures, pressures, and the presence of many other fluids and gases. Most CO₂ detection methods are not adapted for distributed measurements in these geological locations. The team's design of novel fibre-optic technology may allow them to make distributed measurements of CO₂ concentrations at deep/large storage sites over the long term.

Initial, significant breakthroughs have been achieved in measuring the refractive index difference between gaseous CO₂ and N₂ at atmospheric pressure and also the refractive index difference between supercritical CO₂ and brine at a pressure of 10MPa. Differences in refractive index between CO₂-saturated brine and brine with no CO₂ have also been found to be measurable. Fibre-optic gratings used for these analyses are being developed by the group and commercially available products have also been tested. In addition to some early publications, the research program has attracted media attention and research collaboration with a multinational oil company is being investigated.

Designing easy-release CO₂ capture at the molecular level

George Shimizu, Team Lead

Department of Chemistry

University of Calgary

The focus of this research is on developing better CO₂ capture materials from a metal organic framework (MOF) molecular perspective but then merging the materials into CO₂ capture systems. The development requires collaboration with industry, and the research has engaged several companies in discussions including Enovex Inc. and Inventys Thermal Technologies, two Canadian companies both developing CO₂ capture systems. Built on research published in the journal Science by lead investigator George Shimizu, University of Ottawa investigator Tom Woo, and others, the key breakthrough has been the development of efficient computational chemical routes to prediction of CO₂ sorption/desorption properties coupled to efficient synthetic design routes to water resistant effective CO₂ sorbents. This allows the numerical triaging of very large numbers of potential sorbents

prior to synthesis, then rapid synthesis and testing of optimal candidates. Screening has now been carried out on 30,000 virtual MOFs, leading to the identification of promising MOFs for CO₂ capture, in collaboration with Inventys Thermal Systems of Vancouver. A key discovery of metal phosphonate ester based MOF sorbents has been made via this route. A metal oxide framework, which is stable in boiling water, has thus been synthesized.

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*University of Toronto professor
Heather McLean participated in the Oil
Sands Expert Panel at the HIS-CERA
Workshop in Washington, D.C.*
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**Assessing the potential of low carbon fossil-fuel/derived technologies:
A life cycle environmental and techno-economic evaluation of the oil sands**

*Heather MacLean, Team Co-Lead
Civil Engineering
University of Toronto*

*Joule Bergerson, Team Co-Lead
Chemical and Petroleum Engineering
University of Calgary*

Professors MacLean and Bergerson are improving the scientific understanding of the life cycle implications of various greenhouse gas (GHG) mitigation strategies that could be applied in the development of Alberta's oil sands. The Greenhouse Gas Emissions of Current Oil Sands Technologies (GHOST) oil sands life cycle model developed earlier by this group is the foundation for an enhanced and integrated life cycle analysis (LCA) model to be developed within this project. The important research result in this reporting period has been to develop an integrated approach to LCA of technologies in the oil sands and, crucially, building a trusted and close relationship with industry. The project has for the first time established common metrics for data sharing and reporting, allowing decisions about which technologies to pursue to reduce carbon footprint during in situ oil sands recovery activities. An equally significant achievement has been the level and extent of industry engagement.

A pore scale microlab to perform fundamental laboratory-based studies of CO₂ transport and reactivity in reservoirs

*David Sinton, Team Lead
Director, Centre for Sustainable Energy
University of Toronto*

The overall objective of the experimental program is to perform CO₂ transport and reactivity measurements required for effective carbon management in Canada. The testing systems being developed are microfluidic chip based adaptations of the classical pressure volume temperature cell, offering improved control, range, accuracy and capacity for pore scale study of porous media. The fluids and porous media employed in these studies are relevant to the following processes: (1) enhanced oil recovery (EOR) with and without steam injection and simultaneous CO₂ storage, and (2) carbon sequestration in brine saturated carbonate deposits. There is extensive industry engagement, extensive commercialization opportunities, and discussion with many major and supermajor oil companies and service companies. A key development has been the ability to create stable, fluid resistant microfluidic chips able to operate at appropriate temperature and pressure in which key fluid interfaces or properties can be examined.

For summaries of all 36 research projects visit us at www.cmc-nce.ca.

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*Dr. Doug Stephan, University of
Toronto, received the Humboldt
Foundation Research Award.*
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Professor and Canada Research Chair
in Clean Energy Technology
University of British Columbia

Eddy Isaacs
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John Shaw
Professor and NSERC/AB Innovates
Industrial Research Chair in
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John Zhou
Executive Director,
Environmental Technologies
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Environment Solutions

Jim Rowley
Independent

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Benjamin Rostron
Mauricio Sacchi
Doug Schmitt
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John Shaw
Thomas Thundat
Japan J. Trivedi
Mirko Van der Baan
Zhenghe Xu

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Gregory Dipple
Naoko Ellis
Peter Englezos
Baizeng Fang
John Grace
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Michael Hitch
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C. Jim Lim
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Viola Birss
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Ian Gates
Hassan Hassanzadeh
Nancy Higginson
Josephine Hill
Helen Isaac
Jeong Woo Kim
David Keith
Janne Kettunen
Steve Larter
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Nader Mahinpey
Gary Margrave

Bernhard Mayer
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Christine Chan
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University of Saskatchewan*

Christopher Hawkes
James Merriam
Jatin Nathwani
Todd Pugsley
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Olivera Kesler
Eugenia Kumacheva
Douglas Macdonald
Heather MacLean

Charles Mims
Barbara Sherwood Lollar
David Sinton
Douglas Stephan

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James R. Craig
Maurice Dusseault
Robert Gracie
Yuri Leonenko
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Alberta Innovates - Technology Futures

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National Research Council

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Joseph Henton

New Paradigm Engineering Ltd.

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Pembina Institute

Matthew Horne

Petroleum Technologies Research Council

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Saskatchewan Research Council

Anastassia Manuilova

*Indicates academic institution is a CMC-NCE network member

Independent Auditors' Report

To the Members of Carbon Management Canada Inc.

We have audited the accompanying financial statements of Carbon Management Canada Inc., which comprise the statement of financial position as at March 31, 2011, and the statements of operations and changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Carbon Management Canada Inc. as at March 31, 2011, and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Collins Barrow Calgary LLP
CHARTERED ACCOUNTANTS

Calgary, Canada
June 14, 2012

Carbon Management Canada Inc.
(Incorporated under the laws of Canada)

Rapport indépendant des vérificateurs

Pour les membres de Carbon Management Canada Inc.

Carbon Management Canada Inc.

Nous avons vérifié les états financiers ci-joints de Carbon Management Canada Inc., qui comprennent la déclaration de la situation financière au 31 mars 2012, l'état des résultats et l'évolution des actifs nets et des flux de trésorerie pour l'exercice terminé, et un résumé des principales méthodes comptables et autres notes explicatives.

Responsabilité de la direction pour les états financiers

La direction est responsable de la préparation et de la présentation honnête de ces états financiers conformément aux principes comptables généralement reconnus du Canada, de même qu'un contrôle interne tel que la direction détermine nécessaire pour permettre la préparation des états financiers qui sont exempts d'anomalies significatives, que ce soit en raison de fraudes ou d'erreurs.

Responsabilité des vérificateurs

Notre responsabilité consiste à exprimer une opinion sur ces états financiers en nous fondant sur notre vérification. Nous avons effectué notre vérification selon les normes de vérification généralement reconnues du Canada. Ces normes exigent que nous nous conformions aux règles d'éthique et que nous planifions et réalisons l'audit pour obtenir l'assurance raisonnable que les états financiers sont exempts d'anomalies significatives.

Une vérification consiste à obtenir des éléments probants concernant les montants et les renseignements à fournir dans les états financiers. Le choix des procédures relève du jugement des vérificateurs, y compris l'évaluation des risques d'anomalies significatives de la déclaration financière, que ce soit en raison de fraudes ou d'erreurs. En procédant à ces évaluations du risque, le vérificateur considère le contrôle interne relatif à l'établissement de l'entité et la présentation fidèle des états financiers afin de concevoir des procédures d'audit appropriées en la circonstance, mais non dans le but d'exprimer une opinion sur l'efficacité des contrôles internes de l'entité. Une vérification consiste également à apprécier les méthodes comptables retenues et le caractère raisonnable des estimations comptables faites par la direction, ainsi qu'une évaluation de la présentation d'ensemble des états financiers. Nous estimons que les éléments probants que nous avons obtenus sont suffisants et appropriés pour fournir une base pour formuler notre opinion.

Avis

À notre avis, les états financiers présentent fidèlement, à tous les égards importants, la situation financière de Carbon Management Canada Inc. au 31 mars 2012, et les résultats de son exploitation et de ses flux de trésorerie pour l'exercice terminé en conformité avec les principes comptables généralement reconnus.

Collins Barrow Calgary LLP
COMPTABLES AGRÉES

Calgary, Canada
14 juin 2012

Carbon Management Canada Inc.
(Constituée sous les lois de Canada)

Statement of Financial Position / *Bilan Financier*

March 31, 2012 / 31 mars 2012	2012	2011
Assets / Actif	\$	\$
Current assets / Actif		
Cash and cash equivalents (Note 4) / <i>Encaisse et encaisse équivalente (Note 4)</i>	22,143,528	15,348,599
Accounts receivable / <i>Débiteurs</i>	5,123,611	10,210,828
Prepaid expenses / <i>Charges payées d'avance</i>	55,430	10,779
	27,322,569	25,570,206
Liabilities / Passif		
Current liabilities / <i>Passif à court terme</i>		
Accounts payable and accrued liabilities / <i>Créditeurs</i>	235,659	230,612
Deferred revenue (Note 3) / <i>Revenus reportés (Note 3)</i>	26,231,266	24,878,635
	26,466,925	25,109,247
Net Assets / Actif Net	855,644	460,959
Commitments and contingencies (Note 7) / <i>Engagements et éventualités (Note 7)</i>	27,322,569	25,570,206

See accompanying notes / *Voir notes afférentes*

Approved by the Board / *Approuvé par le conseil*

Statement of Operations and Changes in Net Assets / *État des résultats et de l'évolution de l'actif net*

Year Ended March 31, 2012 / <i>Exercice se terminant le 31 mars 2012</i>	2012	2011
Revenue / Revenus	\$	\$
Federal grants / <i>Subventions fédérales</i>	6,845,047	2,183,668
Provincial grants / <i>Subventions provinciales</i>	2,182,321	468,595
Industry grants / <i>Apport des partenaires</i>	460,000	460,959
Interest Income / <i>Revenus d'intérêts</i>	384,581	155,534
	9,871,949	3,268,756
Expenses / Dépenses		
Project funding / <i>Financement des projets</i>	7,941,947	1,642,721
General and administrative (note 4) / <i>Général et administration (note 4)</i>	1,153,161	677,431
Professional fees / <i>Honoraires professionnels</i>	51,436	388,041
Consultants / <i>Consultants</i>	261,371	74,984
Advertising and outreach / <i>Publicité</i>	69,349	74,620
	9,477,264	2,807,797
Excess of revenue over expenditures / <i>Excédents des produits par rapport aux charges</i>	394,685	460,959
Net assets, beginning of year / <i>Actif net, début de l'exercice</i>	460,959	–
Net assets, end of year / <i>Actif net, fin de l'exercice</i>	855,644	460,959

Statement of Cash Flows / État des flux de trésorerie

Year Ended March 31, 2012 / Exercice se terminant le 31 mars 2012	2012	2011
Operating activities / Activités de fonctionnement	\$	\$
Excess of revenue over expenditures / Excédent des produits par rapport aux charges	394,685	460,959
Changes in non-cash working capital / Variations d'éléments du fonds de roulement		-
Accounts receivable / Débiteurs	5,087,217	(10,184,339)
Prepaid expenses / Charges payées d'avance	(44,651)	(10,779)
Accounts payable and accrued liabilities / Créditeurs et charges à payer	5,047	93,974
Deferred revenue / Revenus reportés	1,352,631	12,778,778
	6,400,244	2,677,634
Cash inflow / Flux monétaire	6,794,929	3,138,593
Cash and cash equivalents, beginning of year / Encaisse et équivalents de trésorerie, début de la période	15,348,599	12,210,006
Cash and cash equivalents, end of year / Encaisse et équivalents de trésorerie, fin de la période	22,143,528	15,348,599
Cash and cash equivalents is comprised of: / Encaisse et équivalents de trésorerie est composé de:		
Cash / Encaisse	22,143,528	7,314,078
Guaranteed Investment Certificates / Certificats de placement garanti	-	8,034,521
	22,143,528	15,348,599

Notes to Financial Statements

March 31, 2012

1. Nature of operations

Carbon Management Canada Inc. (the "Organization") focuses on funding the development of the technologies, insights, and highly qualified personnel to reduce fossil fuel carbon emissions in Canada while at the same time maintaining Canada's global position as a competitive and reliable energy supplier.

On February 11, 2010, the Organization signed a grant agreement with the federal government for the purpose of promoting the development of technologies and practices for reduction of carbon emissions related to fossil fuel energy production and consumption. The University of Calgary ("Network Host") has been appointed to administer the use of the grant funds in accordance with the terms and conditions of the agreement. The Network Host will implement and oversee controls designed to ensure transactions charged to the grant are eligible expenses and compliant with the guidelines.

On March 8, 2010, the Organization also signed a grant agreement with Alberta Environment, whereby the Alberta government awarded Carbon Management Canada a \$25 million grant.

The Organization was incorporated on December 23, 2009, under Part II of the Canada Corporations Act and is exempt from tax under the Canada Income Tax Act.

2. Significant accounting policies

(a) Revenue recognition

The Organization follows the deferral method of accounting for grant revenue. Restricted contributions are recognized in the year in which related expenses are incurred. Unrestricted contributions are recognized as revenue when received or when receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Interest income is recognized on an accrual basis as it is earned.

(b) Cash and cash equivalents

Cash and cash equivalents consist of cash, cash held in trust by the Network Host and guaranteed investment certificates that are cashable at any time or with maturity dates of less than 90 days at inception.

(c) Measurement uncertainty

The valuation of accounts receivable is based on management's best estimate of the provision for doubtful accounts.

The valuation of accrued liabilities is based on management's best estimates of expenses incurred during the year that will be payable in future periods.

By their nature, these estimates are subject to measurement uncertainty and the effect on the financial statements of changes in such estimates in future periods could be significant.

(d) Financial instruments

Canadian Institute of Chartered Accountants ("CICA") Handbook Section 3855 prescribes when a financial asset, financial liability, or non-financial derivative is to be recognized on the

balance sheet and at what amount, requiring fair value or cost-based measures under different circumstances. All financial instruments must be classified as one of the following five categories: held-for-trading, held-to-maturity instruments, loans and receivables, available-for-sale financial assets, or other financial liabilities. All financial instruments, with the exception of loans and receivables, held-to-maturity investments and other financial liabilities measured at amortized cost are reported on the balance sheet at fair value. Subsequent measurement and changes in fair value will depend on their initial classification. Available-for-sale financial assets are measured at fair value with changes in fair value recorded in other comprehensive income until the investment is derecognized or impaired, at which time the amounts would be recorded in the statement of loss.

The Organization has chosen not to adopt CICA Handbook Section 3862—“Financial Instruments—Disclosures” and Section 3863—“Financial Instruments—Presentation” and continues to apply CICA Handbook Section 3861—“Financial Instruments—Disclosure and Presentation”.

(e) Future accounting pronouncements

The Accounting Standards Board (“AcSB”) has issued a new accounting framework for not-for-profit organizations. Not-for-profit organizations must choose to apply this new framework or International Financial Reporting Standards (“IFRS”) to fiscal years beginning on or after January 1, 2012. Early adoption is permitted. The standards in this new framework did not substantially change from the existing Canadian Institute of Chartered Accountants (“CICA”) Handbook Section 4400 and should not result in substantial changes in many not-for-profit organizations. The Organization has chosen to adopt the new accounting framework as of April 1, 2012.

3. Deferred revenue

	2012	2011
Provincial grant	\$ 22,237,975	\$ 19,420,297
Federal grant	3,843,291	5,308,338
Industry partner	150,000	150,000
	\$ 26,231,266	\$ 24,878,635

4. Related party transactions

During the year, the Organization paid general and administrative costs to the Network Host of \$19,485 (2011—\$130,457), of which \$NIL (2011—\$6,057) is included in accounts receivable, and \$11,751 (2011—\$33,445) in accounts payable and accrued liabilities.

Cash includes \$4,074,530 (2011—\$5,476,193) held in trust by the Network Host on behalf of the Organization. The Network Host paid interest of \$154,800 (2011—\$65,905) to the Organization on the funds held in trust. The Network Host transfers funds to the Organization as it incurs expenditures related to the Federal grant. At March 31, 2012, the Organization had spent \$76,337 (2011—\$182,737) more than the Network Host had transferred due to the timing of invoices between the parties.

These transactions are in the normal course of operations and are measured at the exchange amount which is the amount of consideration established and agreed to by the related parties.

The Network Host leases office space to the Organization at no cost. No amount has been recorded in these financial statements related to the lease.

5. Financial instruments

The Organization's financial instruments consist of cash and cash equivalents, accounts receivable and accounts payable and accrued liabilities. The Organization has designated its cash and cash equivalents as held for trading, which is measured at fair value. Accounts receivable is classified as loans and receivables, and accounts payable and accrued liabilities are classified as other financial liabilities, all of which are measured at amortized cost. Unless otherwise noted, the Organization is not exposed to significant risk arising from these or other financial instruments.

(a) Fair values

The fair values of the Organization's accounts receivable and accounts payable and accrued liabilities approximate their carrying values because of their short-term nature or because they bear interest at market rates.

(b) Credit risk

The financial instruments that potentially subject the Organization to a significant concentration of credit risk consist primarily of cash and cash equivalents and accounts receivable. The Organization mitigates its exposure to credit loss by placing its cash and cash equivalents with a major financial institution. Cash includes \$4,074,530 which is held by the Network Host, which is a large government funded university. Accounts receivable consists of a grant from the federal government, a grant from an industry partner, and goods and services tax due from the Federal Government of Canada, none of which result in significant credit risk.

6. Capital management

The Organization's objective when managing capital is to safeguard its ability to continue as a going concern, including the need to fund future operations and pay its obligations as they come due. The Organization carefully monitors its level of cash and government grants by using financial and non-financial indicators.

The Organization's capital consists of working capital. Certain capital has been externally restricted as per the federal and provincial grant agreements (note 7).

7. Commitments and contingencies

The Organization receives a majority of its funding through grants that specify the term of the funding and the eligible expenditures under the grant. The Organization may be required to repay all or a portion of the grant if ineligible expenditures are incurred, or if all of the grant monies are not spent within the designated time frame.

Funds have been committed for future eligible expenditures through approved qualifying projects, as follows:

2013	\$	7,420,347
2014		2,758,153
	\$	10,178,500

Notes afférentes aux états financiers

31 mars 2012

1. Nature des opérations

Carbon Management Canada Inc. (« l'Organisation ») met l'accent sur le financement du développement des technologies, des idées et du personnel hautement qualifié afin de réduire les émissions de carbone des combustibles fossiles du Canada tout en maintenant la position globale du Canada en tant que fournisseur d'énergie concurrentiel et fiable.

Le 11 février 2010, l'Organisation a signé un accord de subvention avec le gouvernement fédéral dans le but de promouvoir le développement de technologies et pratiques pour la réduction d'émissions de carbone liée à la production et consommation d'énergie provenant de combustibles fossiles. L'université de Calgary (l'établissement hôte du réseau) a été nommée pour administrer l'utilisation des fonds de subvention conformément aux termes et conditions de l'accord. L'établissement hôte du réseau mettra en œuvre et supervisera les contrôles visant à assurer que les transactions imputées au réseau comme subventions sont des dépenses admissibles et conformes aux lignes directrices.

Le 8 mars 2010, l'Organisation a également signé un accord de subvention avec le ministère de l'environnement de l'Alberta. Celui-ci a accordé une subvention de 25 millions de dollars à Carbon Management Canada.

L'Organisation a été constituée le 23 décembre 2009, en vertu de la Partie II de la Loi sur les corporations canadiennes (LCC) et est exonérée d'impôts en vertu de la Loi de l'impôt sur le revenu.

2. Principales conventions comptables

(a) Constatation des produits

L'organisme utilise la méthode du report pour comptabiliser les revenus de subvention. Les apports affectés sont constatés dans l'exercice au cours duquel les dépenses connexes sont engagées. Les contributions non affectées sont constatées à titre de revenus lorsqu'ils sont reçus ou lorsqu'ils sont à recevoir si le montant à recevoir peut être raisonnablement estimé et le recouvrement est raisonnablement assuré.

Les intérêts créditeurs sont comptabilisés selon la comptabilité d'exercice lorsque payés.

(b) Trésorerie et équivalents de trésorerie

La trésorerie et les équivalents de trésorerie se composent de trésorerie, trésorerie détenue en fiducie par l'hôte du réseau et certificats de placement garanti encaissables en tout temps ou dont l'échéance initiale est de moins de 90 jours à compter de sa création.

(c) Norme sur l'incertitude de mesure

La valorisation des débiteurs est basée sur les meilleures estimations de la direction de la provision pour les créances douteuses.

L'évaluation des charges à payer est basée sur les meilleures estimations de la direction des dépenses engagées durant l'année qui sera payable au cours de périodes futures.

Par leur nature, ces estimations sont sujettes à l'incertitude de mesure et l'effet sur les états financiers des changements dans ces estimations pourrait être important dans les périodes futures.

(d) Instruments financiers

Le chapitre 3855 de l'Institut Canadien des Comptables Agréés ("ICCA") stipule à quel moment un actif financier, un passif financier ou un dérivé non financier doivent être reconnus au bilan et à quel montant, nécessitant juste valeur ou au coût des mesures fondées sous différentes circonstances. Tous les instruments financiers doivent être classés comme l'une des cinq catégories suivantes: détenus à des fins de transaction, détenus jusqu'à l'échéance des instruments, des prêts et créances, disponibles à la vente d'actifs financiers, ou autres passifs financiers. Tous les instruments financiers, à l'exception des prêts et créances, détenus jusqu'à leur échéance et autres passifs financiers évalués au coût amorti sont rapportés sur le bilan à leur juste valeur. L'évaluation ultérieure et variations de juste valeur dépend de leur classement initial. Disponible à la vente d'actifs financiers sont évalués à la juste valeur avec variation de juste valeur comptabilisées au résultat étendu jusqu'à ce que l'investissement est décomptabilisé ou déprécié, au moment où les montants seraient enregistrées dans la déclaration de perte.

L'Organisation a choisi de ne pas adopter le chapitre 3862 – « Instruments financiers – informations à fournir » et 3863 – « Instruments financiers – présentation » et continue à s'appliquer le chapitre 3861 – « Instruments financiers – informations à fournir et présentation ».

(e) Normes comptables

Le Conseil des normes comptables de l'ICCA a publié un nouveau cadre comptable pour les organismes à but non-lucratif. Ces organismes doivent choisir d'appliquer ce nouveau cadre ou utiliser l'International Financial Reporting Standards (« IFRS ») pour les exercices commençant le 1er janvier 2012 ou après. L'Organisation prévoit d'adopter ce nouveau cadre. L'adoption anticipée est permise. Les normes dans ce nouveau cadre ne modifie pas substantiellement le chapitre 4400 du manuel actuel de l'Institut Canadien des Comptables Agréés (« ICCA ») et ne devrait pas entraîner de modifications substantielles aux états financiers de l'Organisation.

3. Revenus reportés

	2012	2011
Subventions provinciales	22 237 975	19 420 297
Subventions fédérales	3 843 291	5 308 338
Apport des partenaires	150 000	150 000
	24 878 635	12 099 857

4. Transactions entre personnes apparentées

Au cours de l'année, l'Organisation a payé des frais généraux et administratifs à l'établissement hôte du réseau de 130 457 \$ (113 157 \$ en 2010), dont 6 057 \$ (5 000 \$ en 2010) est inclus dans les débiteurs, et 33 445 \$ (59 653 \$ en 2010) des comptes créditeurs et charges à payer.

La trésorerie comprend les 5 476 193 \$ (2 210 006 \$ en 2010) détenus en fiducie par l'établissement hôte du réseau pour le compte de l'Organisation. L'établissement hôte du réseau a payé des intérêts de 65 905 \$ (aucun en 2010) à l'Organisation pour les fonds détenus en fiducie. L'établissement hôte du réseau a transféré les fonds à l'Organisation puisqu'elle engage des dépenses liées à la subvention fédérale. Au 31 mars 2012, l'Organisation avait dépensé 182 737 \$ de plus que ce que l'établissement hôte du réseau avait transféré en raison du calendrier des factures entre les parties.

Ces transactions s'inscrivent dans le cours normal des activités et sont mesurées à la valeur d'échange qui est le montant de la contrepartie établie et acceptée par les apparentés.

L'établissement hôte du réseau loue sans frais des bureaux à l'Organisation. Aucun montant n'a été comptabilisé dans les états financiers relatifs à la location.

5. Instrument financiers

Les instruments financiers de l'Organisation comprennent l'encaisse et équivalents, les débiteurs et les comptes créditeurs. L'Organisation a désigné ses équivalents de trésorerie et liquidités détenus à des fins de transaction, qui est mesurée à la juste valeur. Les comptes débiteurs sont classés comme prêts et créances et les créditeurs et charges à payer sont classés comme autres passifs financiers, qui sont tous évalués au coût amorti. Sauf indication contraire, l'organisme n'est pas exposé à des risques importants découlant de ces instruments financiers ou d'autres

(a) Justes valeurs

La juste valeur de comptes débiteurs et des comptes créditeurs et charges à payer de l'Organisation se rapprochent de leur valeur comptable en raison de leur nature à court terme ou parce qu'ils portent intérêt au taux du marché.

(b) Risque de crédit

Les instruments financiers qui pourraient exposer l'Organisation à une concentration importante du risque de crédit se composent principalement de trésorerie et équivalents de trésorerie, et les comptes débiteurs. La société atténue son exposition aux pertes de crédit en plaçant sa trésorerie et équivalents de trésorerie avec une grande institution financière. La trésorerie comprend 4 074 530\$ qui est détenu par l'établissement hôte du Réseau, qui est une université grandement financée par le gouvernement. Les débiteurs se composent d'une subvention du gouvernement fédéral, une subvention d'un partenaire industriel, et des biens et des services fiscaux dus par le gouvernement fédéral du Canada, dont aucun n'entraîne un risque de crédit important.

6. Gestion financière

L'objectif de l'Organisation pour la gestion du capital consiste à préserver sa capacité à poursuivre son exploitation, y compris la nécessité de financer des opérations futures et de payer ses obligations à leur échéance. L'Organisation surveille attentivement le niveau de ses subventions, en espèces et provenant du gouvernement, en utilisant des indicateurs financiers et non financiers.

Le capital de l'Organisation se compose de fonds de roulement. Certains capitaux a été grevés selon les conventions de subvention fédéraux et provinciaux (note 7).

7. Engagements et éventualités

L'Organisation reçoit une majorité de son financement par des subventions qui précisent la durée du financement et les dépenses admissibles en vertu de la subvention. L'Organisation peut être tenue de rembourser la totalité ou une partie de la subvention si des dépenses non admissibles sont engagées, ou si tous les fonds de subvention ne sont pas dépensés dans les délais assignés.

Des fonds ont été engagés pour l'avenir des dépenses admissibles des projets approuvés par le biais de qualification, comme suit:

2013	7 420 347 \$
2014	2 758 153 \$
	10 178 500 \$



In appreciation of our supporters:





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