

Financial Report

2012 - 2013

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Description of the PTRC

About the PTRC

The Petroleum Technology Research Centre (PTRC) is a not-for-profit corporation founded in 1998 by the University of Regina, the Saskatchewan Research Council, the Government of Saskatchewan, and Natural Resources Canada. It is located in the Innovation Place Research Park in Regina, Saskatchewan, adjacent to the University of Regina campus. Its diverse portfolio of research projects is funded through ongoing contributions from several federal, provincial and private sector partners, including direct funding from:

- Government of Canada: Western Economic Diversification, Sustainable Development Technology Canada, Networks of Centres of Excellence, and Natural Resources Canada.
- Government of Saskatchewan: Ministry of the Economy, Ministry of Environment, and Innovation Saskatchewan.
- Private sector: Canadian and international oil and gas companies, utilities and technology providers.

In addition, in-kind research support is provided by the University of Regina's Petroleum Systems Engineering faculty and the Energy Division of the Saskatchewan Research Council – both of which are housed in the PTRC building. Additional research partners include organizations and universities from across Canada, the United States and the world.

The PTRC is governed by a Board of Directors comprising representatives from the founding partners and industry leaders operating in western Canada.

Mission and Goals

The mission of the PTRC is to develop world-leading technologies and processes to ensure that the recovery of Canadian hydrocarbon resources is environmentally and economically sustainable for the benefit of stakeholders. The company's goals include:

1. To enhance oil recovery through innovative research and demonstration.
2. To ensure the broad deployment opportunities for technologies are identified to the value of the industry.
3. To conduct R&D on geological containment and process integrity technologies that contribute towards sustainable enhanced oil recovery.
4. To provide evidence-based, value-added services to our stakeholders
5. To support federal and provincial policy makers in developing regulations and policies.

Projects

The PTRC's projects in 2012-2013 included:

- The IEAGHG Weyburn-Midale CO₂ Monitoring and Storage Project, looking at the storage of carbon dioxide in two depleted oil reservoirs in southeastern Saskatchewan.
- Aquistore, an integrated carbon capture and storage project near Estevan, Saskatchewan, examining the injection of CO₂ into a deep saline formation.
- Sustainable Technologies for Energy Production Systems (STEPS), a Business-Led Network of Centres of Excellence in enhanced oil recovery, with over 60 active projects looking at ways to improve the recovery and environmental impacts of hydrocarbon production.
- Saskatchewan Phanerozoic Fluids and Petroleum Systems, looking at how hydrocarbons are generated and where they migrate to in the subsurface of the province.

Letter from the Acting Chair



The Petroleum Technology Research Centre's 2012-2013 fiscal year was marked by a succession of completed programs and activities. In my time on the Board, I don't think I've seen a year where more important projects and programs have been successfully completed or set on a footing that will allow for their completion.

In May of 2012 research in the Weyburn-Midale Project came to an end, leading to the successful publication in November 2012 of the project's final deliverable, a book called *Best Practices for CO₂ Geological Storage: Learnings from the IEAGHG Weyburn-Midale CO₂ Monitoring and Storage Project*. The launch of this book became one of the highlights of the Greenhouse Gas Technology Conference (GHGT-11) in Kyoto Japan in late November. In early 2013, a special edition the *International Journal of Greenhouse Gas Control* containing technical papers on Weyburn-Midale research was also published, illustrating the project's importance globally to the carbon capture and storage (CCS) community.

Late 2012 also marked the completion of the largest capital expenditure ever by the PTRC, with the drilling of both the injection and observation wells in the Aquistore project. While the building of this infrastructure carried with it certain challenges, the completed wells (the deepest in Saskatchewan's history) are also key to the development of improved CO₂ storage measurement and monitoring standards. Aquistore – tied to SaskPower's new Boundary Dam Integrated Carbon Capture Facility – should begin receiving CO₂ in early 2014 and baseline monitoring work has already begun and is on-going.

Finally, with the end of the Business-Led Networks of Centres of Excellence's four-year funding cycle for the Sustainable Technologies for Energy Production Systems (STEPS) enhanced oil recovery program, the PTRC wrapped up more than five dozen EOR research projects at different universities and research councils. The enhanced oil recovery work at the PTRC – essentially, the organization's core research program – has begun the process of reimagining its research focus, and with ongoing provincial and private sector support will continue to fund the development of improved oil recovery technologies that will help the province extract more value from its often difficult to access heavy and tight oil deposits.

I would like to thank our current board members for their ongoing hard work. In addition, I thank the PTRC's departing Board Chair, Mr. Mike Monea, for his service. I also thank other members and representatives who have moved on from the Board in the past year – Dr. Pat Jamieson (independent director); Dr. Dennis Fitzpatrick, University of Regina; Dr. Geoff Munro, Natural Resources Canada (NRCan) and Mr. Ernie Pappas, Saskatchewan Research Council (SRC). I offer a warm welcome to each of the new directors and representatives on the Board – Mr. Mike Crabtree (SRC), Mr. Martin Aubé (NRCan) and Dr. Esam Hussein (University of Regina).

I would also like to thank Dr. Malcolm Wilson, who retired as the CEO of the PTRC in June, for his commitment and hard work during his time with the organization, and Mr. Neil Wildgust who willingly stepped into the position of Acting CEO. Finally, my sincere thanks and appreciation go to the PTRC's staff for their continuing dedication and hard work. I wish everyone success moving forward.

A handwritten signature in black ink that reads "Brian J. Watt". The signature is written in a cursive, flowing style.

Sincerely,
Brian J. Watt
Acting Chair, PTRC

Letter from the Acting CEO



The 2012-2013 research year represented a significant period of transformation and change for the PTRC. With the completion of a four-year Government of Canada funding cycle in 2013 the STEPS Business-Led Network of Centres of Excellence – conducting research into different areas of enhanced oil recovery (EOR) – will be officially finished in March 2014. STEPS funded 60 projects in 2012-13 alone and the program was a major success for the PTRC, allowing for the expansion of research beyond heavy oil and bitumen into light oil and cutting-edge enabling technologies.

This does not mean, however, that the PTRC is curbing its commitment to enhanced oil recovery, given the continuing interest expressed from our oil company sponsors and the Government of Saskatchewan. Re-focussing our attention to heavy oil, maintaining interests in tight oil and Bakken formation research, re-engaging our corporate sponsors, and securing on-going provincial government funding will reshape our EOR research going forward into the next fiscal year and beyond.

Challenges also emerged in the PTRC's deep saline formation CO₂ monitoring and storage project, Aquistore. With the successful completion of both the observation and injection wells came the realization that costs associated with those two important pieces of infrastructure came in 15 percent higher than expected.

These higher costs were partially a result of the depth of the drilling and caused by some challenges encountered with cementing the observation well. However, with the completed infrastructure in place, Aquistore is ready to move forward with the transfer of these infrastructure assets to the CO₂ provider and the enacting of its research program over the next four years.

The IEAGHG Weyburn-Midale CO₂ Monitoring and Storage Project completed its research in 2012-13 with two major publications – a best practices manual in November 2012 and a special edition of the *International Journal of Greenhouse Gas Control (IJGGC)* in 2013. The dissemination of the important and groundbreaking work done in the project is fundamental to the deployment of

carbon dioxide storage around the world. The PTRC is proud to have played such an important role in the advancement of this research.

The PTRC also experienced transformation on a more personal level in 2013 with the retirement of its CEO, Dr. Malcolm Wilson, just after the end of the fiscal year. I, and the staff of the company, express sincere thanks to Malcolm for his work over the past number of years (he was instrumental in the very foundation of the PTRC back in 1998) and wish him the best in his retirement. I would also like to thank the staff of the PTRC and our Board of Directors for the support shown to me as I transitioned into the role of acting CEO. Much exciting and interesting work remains to be done and I look forward to meeting new challenges together.

A handwritten signature in black ink, appearing to read 'Neil Wildgust'.

Mr. Neil Wildgust
Acting CEO, PTRC

Governance & Accountability

Organizational Chart



2012-2013 Board of Directors

Michael Monea (Chair), President, Carbon Capture & Storage Initiatives, SaskPower (resigned effective August 23, 2013)

Brian Watt (Vice Chair), EOR Planning and Land Manager, Heavy Oil and Gas Business Unit, Husky Energy Inc. (Acting Chair as of August 23, 2013)

Hal Sanders, Assistant Deputy Minister, Saskatchewan Ministry of the Economy (Minerals, Lands and Resource Policy)

Dennis Fitzpatrick, Vice President, Research, University of Regina (resigned April 19, 2013)

Bill Jackson, Independent Director

Patrick Jamieson, Independent Director (resigned February 7, 2013)

Ernie Pappas, Vice President, Energy, Saskatchewan Research Council (resigned September 4, 2013)

David Payne, Vice President, Exploitation – East, Canadian Natural Resources Limited

Dan Schiller, Vice President- Eastern Oil Business Unit, Cenovus Energy Inc.

Randy Brunet, Partner, MacPherson, Leslie and Tyerman (MLT)

Robert Scammell, Development Manager North Central Plains & BC, Apache Corporation

Chantal Abou Debs, (Non-Voting Observer), Senior Program Manager, Business-Led Networks of Centres of Excellence

Geoff Munro, (Non-Voting Director), Chief Scientist and Assistant Deputy Minister, Innovation and Energy Technology Sector, Natural Resources Canada (Resigned July 18, 2013)

2013 Appointments to PTRC's Board of Directors

Martin Aube, (Non-Voting Director), Director General, Energy Innovation Team, Strategic Science-Technology Branch, Natural Resources Canada

Michael Crabtree, Vice President, Energy, Saskatchewan Research Council

Esam Hussein, Dean, Faculty of Engineering and Applied Sciences, University of Regina

Auditor's Report

To the Members of Petroleum Technology Research Centre Inc.,

The accompanying summarized financial statements, which comprise the summarized statement of financial position as at March 31, 2013, and summarized statements of operations and cash flow for the year then ended, are derived from the audited financial statements of Petroleum Technology Research Centre Inc. for the year ended March 31, 2013. We expressed an unmodified audit opinion on those financial statements in our report dated July 18, 2013.

The summarized financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading the summarized financial statements, therefore, is not a substitute for reading the audited financial statements of Petroleum Technology Research Centre Inc.

Management's Responsibility for the Summarized Financial Statements

Management is responsible for the preparation of a summary of the audited financial statements in accordance with Canadian accounting standards for not-for-profit organizations.

Auditor's Responsibility

Our responsibility is to express an opinion on the summarized financial statements based on our procedures, which were conducted in accordance with Canadian Auditing Standards.

Opinion

In our opinion, the summarized financial statements derived from the audited financial statements of Petroleum Technology Research Centre Inc. for the year ended March 31, 2013 are a fair summary of those financial statements, in accordance with Canadian accounting standards for not-for-profit organizations.

July 18, 2013
REGINA, Saskatchewan

Virtus Group LLP
Chartered Accountants

Condensed Financial Statements

Condensed Statement of Financial Position

For the year ended March 31, 2013

(C\$000s)	2013	2012
Assets		
Cash	\$8,543	\$8,079
Other Assets	4,350	16,407
Total Assets	12,893	24,486
Liabilities and Net Assets		
Deferred Revenue	5,941	23,189
Other Liabilities	12,122	596
Total Liabilities	18,063	23,785
Net Assets (deficit)	(5,170)	701
Total Liabilities and Net Assets	\$12,893	\$24,486

Condensed Statement of Operations and Unrestricted Net Assets

For the year ended March 31, 2013

(C\$000s)	2013	2012
Revenue		
Government of Canada Funding	\$12,030	\$6,776
Government of Saskatchewan Funding	8,236	3,580
Industry Funding	3,975	2,148
Other Funding	1,596	1,049
Total Revenue	25,837	13,553
Expenses		
Projects	29,470	11,137
Operations	2,515	2,045
Total Expenses	31,985	13,182
Excess of Revenue (Expenses)	(6,148)	371
Unrestricted Net Assets, Beginning of Year	701	330
Unrestricted Net Assets, Transfers	277	-
Unrestricted Net Assets, End of Year	\$(5,170)	\$701

Condensed Financial Statements

Condensed Statement of Cash Flows

For the year ended March 31, 2013

(C\$000s)	2013	2012
Cash		
Net cash from (used in) operating activities	\$530	\$(10,787)
Net cash used in investing activities	(66)	(1)
Increase (Decrease) in Cash	464	(10,788)
Cash, Beginning of Year	8,079	18,867
Cash, End of Year	\$8,543	\$8,079



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