



Message from the Chair



Brent Lakeman
Chairman of the Board

In the fall of 2011, I was honoured to take on the role of chair of the Edmonton Waste Management Centre of Excellence (EWMCE) Board of Directors. EWMCE is unique in North America in that it provides a space for industry, municipal and provincial governments, universities, technical colleges, academia and service providers to come together to test innovative waste management technologies at a scale that is not offered anywhere else, and to provide stakeholders and the public with education programs, training and information on innovative approaches to waste management.

The Board of Directors has recognized the strong capabilities that are available at EWMCE and are committed to working with the Centre's Executive Director to set out a vision and strategic direction that will continue to position the organization as a leader and help it add value to some of the most important waste management challenges facing our stakeholder communities.

In November 2011, the Board and EWMCE management team participated in a 2-day workshop to discuss the external environment and set a strategic direction for the coming years. I am confident this direction will allow EWMCE to build on its current strengths and allow it to provide continued value to member organizations as well as other stakeholders.

I would like to take this opportunity to thank my predecessor, Shawn Gervais who was a Director on the Board for 6 years, the last 4 years as Chair. During that time, Shawn played a crucial role in the EWMCE's succession planning, strategic leadership and stakeholder relations. I look forward to building on Shawn's leadership and working with my Board colleagues to help position the EWMCE for continued success.

Sincerely,
Brent Lakeman
Chairman of the Board

Board of Directors



Peter Hackett,
Special Advisor to the
Vice President (Research)
University of Alberta



Brent Lakeman
General Manager,
Environment and Carbon
Management
Alberta Innovates



Frank Mannarino
Divisional VP,
Edmonton Water Operations
EPCOR



Lorna Rosen
General Manager,
Infrastructure Services
City of Edmonton

Summarized Financial Statement

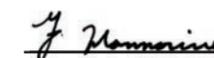
Results of Operation

	2013	2012
Revenues		
Project	\$ 5,801,360	\$ 5,934,744
Other	347,696	373,280
Member contributions	239,553	173,090
Donations	-	12,500
	<u>6,388,609</u>	<u>6,493,614</u>
Cost of Sales	4,958,393	5,066,161
Gross Margin	1,430,216	1,427,453
Expenditures		
Salaries and benefits	1,000,745	900,284
Other	164,482	284,067
Professional fees	155,453	95,010
	<u>1,320,680</u>	<u>1,279,361</u>
Excess Before Amortization	109,536	148,092
Amortization	196,834	195,057
	<u>(\$ 87,298)</u>	<u>(\$ 46,965)</u>
(Deficiency) of Revenues Over Expenditures	<u>(\$ 87,298)</u>	<u>(\$ 46,965)</u>

Financial Position

Assets		
Current assets	\$ 4,467,339	\$ 5,719,797
Long term assets	177,867	183,078
Intangible assets and equipment	446,186	640,516
	<u>\$ 5,091,392</u>	<u>\$ 6,543,391</u>
Liabilities		
Current liabilities	\$ 3,511,784	\$ 4,720,619
Long-term debt	233,799	389,665
	<u>3,745,583</u>	<u>5,110,284</u>
Fund Balances		
Invested in equipment	443,076	635,649
Externally restricted	202,613	811,354
Unrestricted	700,120	(13,896)
	<u>1,345,809</u>	<u>1,433,107</u>
	<u>\$ 5,091,392</u>	<u>\$ 6,543,391</u>

Approved by the Board


Frank Mannarino


Lorna Rosen

Auditor's Report

To the Partners of Edmonton Waste Management Centre of Excellence:

The accompanying summarized financial statements, which comprise the summary statement of financial position as at March 31, 2013, and the summary statement of revenues and expenditures for the year then ended, are derived from the audited financial statements of Edmonton Waste Management Centre of Excellence (EWMCE) for the year ended March 31, 2013. We expressed an unmodified audit opinion on those financial statements in our report dated June 7, 2013.

The summary 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 Edmonton Waste Management Centre of Excellence.

Management's Responsibility for the Summary Financial Statements

The summarized financial statements are comprised of the summary statement of financial position and the summary statement of revenues and expenditures, and do not include any other schedules, a summary of significant accounting policies or the notes to the financial statements.

The summary statement of financial position and the summary statement of revenues and expenditures are presented with the same amounts as the audited financial statements, but certain balances have been combined and all note referencing has been removed.

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 Standard (CAS) 810, "Engagements to Report on Summary Financial Statements."

Opinion

In our opinion, the summarized financial statements derived from the audited financial statements of Edmonton Waste Management Centre of Excellence for the year ended March 31, 2013 are a fair summary of those financial statements, on the basis described in Note 1.

Kingston Ross Pasnak LLP

Kingston Ross Pasnak LLP
Chartered Accountants



Message from the Executive Director



Daryl McCartney Ph.D., P.Eng.
Executive Director

As EWMCE enters its 10th year, we look back on our progress to date and at the same time, continue to move forward towards achieving the objectives of the 2012-2018 Strategic Plan.

In the last year, we made a great deal of progress in constructing and managing our internal systems. Dr. Hassan Katalambula has brought focus and attention to Health and Safety and this continues to be the top priority for the Centre of Excellence. Our new employee compensation plan was finalized, including the long-anticipated addition of a matching RRSP for staff. We continued to develop policies and map new procedures as part of a robust succession plan that will strengthen the Centre's ability to deal with change.

On March 22 OWUN Canada was born. OWUN Canada, the *Organic Waste Utilization Network*, is a network of members whose common interest is the diversion of organic waste from landfill and utilization of organic waste for added value for our environment. OWUN Canada will take a fragmented industry and focus collective efforts to help Canada meet its national goal of 50% diversion of waste from landfills. The network will provide a united voice, strategic actions, and scientific excellence to this sector, bringing together generators, technology and service providers, and government agencies to accelerate advancement of organic waste utilization in Canada. Although still in its infancy, OWUN Canada is supported by over 11 large industries; 20 SME's; 6 Non-profits; 12 of Canada's largest municipalities;

9 provincial governments; the federal government; and 15 academic research institutions. Expect to hear more about OWUN Canada in the coming months!

The Centre continues to support its Members by aligning the Centre's research priorities with their research priorities. Several active projects within EPCOR's Gold Bar Wastewater Treatment plant, the City of Edmonton's Waste Management Service; and the University of Alberta have contributed to the growing understanding of best practices for waste management. Partnerships with Alberta Innovates—Technology Futures resulted in an Anaerobic Digester being built and transported to a beef production facility in Mexico, demonstrating that waste-to-energy conversion is a viable and sustainable way to manage agricultural waste.

It has been an exciting and challenging year for the Centre of Excellence. As we enter our second decade, we will continue to rely on our strong and committed Board of Directors, our many supporters, and our talented and avid staff to continue our path towards becoming a global hub for research, advanced training, and technology development related to organic waste utilization, waste-to-energy, and wastewater treatment and water reuse.

Sincerely,
Daryl McCartney, Ph.D., P.Eng.
Executive Director



Wit Semeniuk
Vice President
Sustainable Development
AMEC Environment & Infrastructure Ltd.



Forrest Tittle
Associate Dean, School of Sustainable Building and Environmental Management
NAIT



Bev Yee
Assistant Deputy Minister,
Strategy Division
Alberta Ministry of Environment and Sustainable Resource Development

Overview of Centre

Vision

Our vision is to bring people and organizations together in a collaborative and creative environment to advance our understanding of innovative waste management processes and technology and to realize waste's value as a resource.

Mission

Within a culture of innovation and entrepreneurialism we will develop sustainable and holistic solutions to waste management problems the world over.

Overview

Our operations are embedded in \$1.5B of world class operating facilities: the Research and Development Building located on the City of Edmonton's Clover Bar Integrated solid waste management site, and the Wastewater Research and Training Centre located on the site of EPCOR's Gold Bar wastewater treatment plant. Both sites offer outstanding pilot, laboratory and analytical facilities. Our ability to facilitate access to live feed streams of solid waste, wastewater, and soon—following completion of Edmonton's Advanced Energy Research Facility—waste-to-energy technology makes the Centre of Excellence unique and a world leader in waste management research and development.



Waste To Energy

Design and Construction of Batch Dry Anaerobic Digestion Pilot Plant—Phase 2 of a 3 Part Study

EWMCE collaborated with Alberta Innovates—Technology Futures (AITF) to conduct a feasibility study focused on integrating a biogas plant into one of Mexico's largest beef production operations. Energy from the organic waste generated could be converted to valuable biogas and reduce emissions.

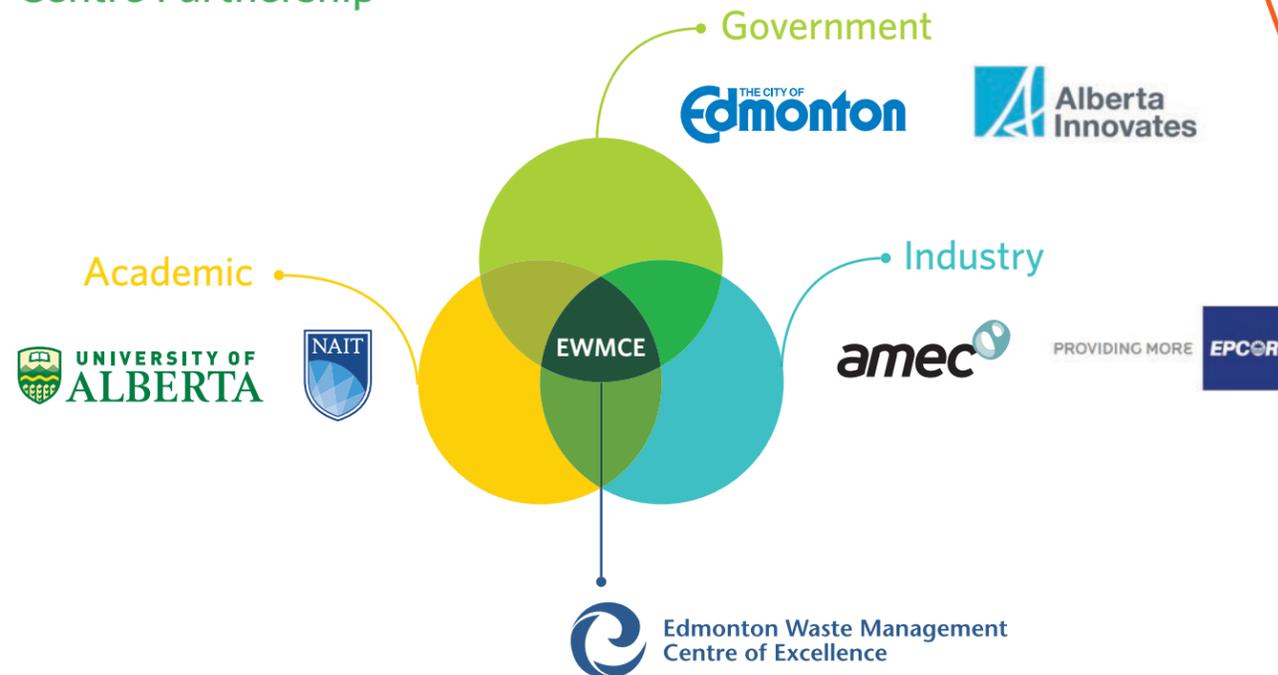
A pilot plant trial was selected as the most logical and reliable method for removing risk from the process. Since the feedstock material behavior could not be scaled with any certainty, a sizable pilot plant apparatus was likely the most appropriate approach for this situation so that true material behavior could be measured.

The client agreed, and a fully automated pilot plant was designed, built and tested in Alberta and thereafter shipped to Mexico for onsite trial. Figure 1 shows the Batch Dry Anaerobic Digestion Pilot Plant loaded on a truck, ready for transportation to Mexico. The pilot plant arrived safely at its destination and pilot tests are still underway.



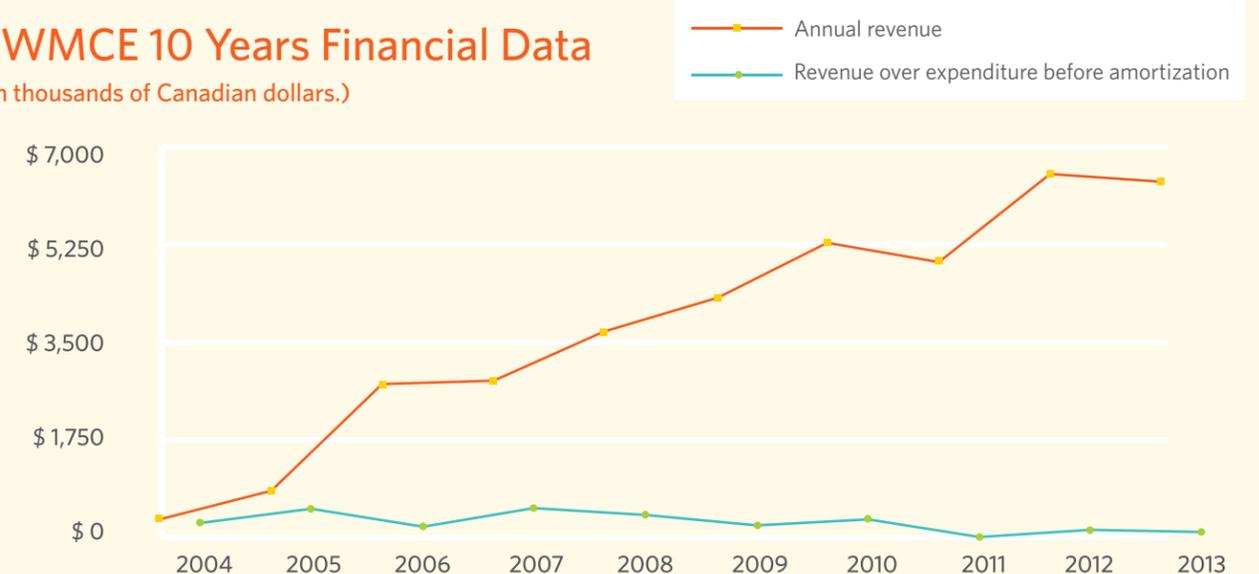
Figure 1: A dry anaerobic digestion pilot plant ready for transportation to Mexico.

Centre Partnership



EWMCE 10 Years Financial Data

(In thousands of Canadian dollars.)



Wastewater

Dissolved Air Floatation (DAF) Polymer Optimization at EPCOR's Gold Bar Wastewater Treatment Plant (WWTP)

The EWMCE was engaged to assist the EPCOR Gold Bar WWTP in a four phase project to select the best polymer and its optimal dosage to be used in the DAF system. The four phases were:

- Full scale DAF operation testing to determine the optimal polymer dosage with the current polymer.
- Laboratory jar testing to determine appropriate mixing intensity.
- Laboratory jar testing to pre-screen various polymer samples.
- Full scale testing to select the optimal polymer and dosage against the cost effective analysis.

The final outcome enabled a cost savings of 25% while ensuring the same or better level of process quality.

Grit Characterization at EPCOR's Gold Bar Wastewater Treatment Plant

EWMCE works with its members to improve operational and production processes. For this project, EWMCE was engaged by the client to characterize the grit particles in the:

- Solids removed by the grit chambers,
- Solids carried over to the primary treatment process,
- Solid materials collecting in the anaerobic digesters.

The project provided insight into the effectiveness of the removed process as well as the nature of the solids removed.

The Advanced Waste Water Treatment Series

This collaborative program is in its 6th year of development and delivery. We continue to partner with EPCOR, the City of Calgary and Alberta Capital Region to produce the very best training for WW operators of tertiary wastewater treatment plants. In the past year we have seen an expansion of our market into other industries that see the value of our training for their own organizations. This fiscal year we trained 160 operators both in Calgary and Edmonton.



"With EWMCE you can accelerate your innovation."

Decade of Excellence

Newsletter headlines

- 2002**
 - EWMCE Becomes Non-profit Corporation
 - Hub for Six Members
 - Dr. Jerry Leonard named Executive Manager
- 2003**
 - EWMCE Inspires Chinese City
 - Pilot Project Recycles Street Sand
 - Ultra-sound Technology Targets Foam Problem
- 2004**
 - New Research Centres Open
 - Centre Signs Agreement with Mexico
 - Gold Bar Tests Microturbine Technology
- 2005**
 - EWMCE signs Sand Recycling Agreement with the City of Edmonton
 - Waste Conference Wins Kudos for International Flavour
 - EWMCE Project Winner—Unparalleled Research Facility
- 2006**
 - Centre Welcomes International Visitors
 - Model Water Reuse System Officially Opens
 - Cleaner Biogas and More Benefits
- 2007**
 - EPCOR Joins Centre Membership
 - Research Targets Biosolids Management
 - Centre Forges Agreement with China
- 2008**
 - Waste—The Social Context—Conference of International Collaboration
 - Panel Experts Discuss Waste to Energy—Small-scale Gasification Potential
 - Advanced Wastewater Training Modules (AWTM) Gain Momentum
- 2009**
 - EWMCE Delegation visits Monterrey Mexico
 - Edmonton Region Biosolids Partnership is Formed
 - Software Tool Produced for Drywall Waste Management
- 2010**
 - EWMCE co-hosts with ISTP Canada International Roundtable on Sustainable Water Management through Nano and Emerging Technologies
 - AWTM Training Series Reaches Approximately 200 Operators
 - Dr. Daryl McCartney Named as Executive Manager
- 2011**
 - Third International Conference includes speakers from Nigeria, Japan, Australia, USA
 - EWMCE Delivers 12-Day HHW Training In Nunavut
 - "Sifting Through the Muck"—Biosolids hold Value as Green Energy Source
- 2012**
 - OWUN Canada, Organic Waste Utilization Network is Born
 - Anaerobic Digester Transported to Mexico
 - Dissolved Air Floatation Project Enables Potential Cost Savings While Ensuring Process Quality



AWTM Courses (# Participants)

"The instructors were very good. The course got me thinking about my plant. The course was great!"
—Participant, DAF, Jan 2013



OWUN Canada

In the fall of 2012, EWMCE—with the support of its Board of Directors and other stakeholders—began working toward achievement of *Network Centre of Excellence* status in the field of organic waste utilization. A key component of being recognized as an NCE is a sustained network of committed members and, as the first step toward that goal, EWMCE created the *Organic Waste Utilization Network: OWUN Canada*.

OWUN Canada will provide a united voice, strategic actions, and scientific excellence to the organic waste sector, bringing together organic waste generators; technology and service

providers; universities; and government agencies to accelerate organic waste research and utilization within Canada. A key focus of the network will be to help municipalities develop business cases for investing in more advanced processing technologies. This will, in turn, drive industry sector opportunities. Without OWUN Canada, organic waste materials will continue to flow to landfills resulting in uncontrolled emissions of greenhouse gases, increased risk of landfill liabilities, deterioration of soil quality, and lost economic opportunities.

Network



Solid Waste



ICI Organic Waste Seminar

The ICI (Industry, Commercial, and Institution) sector accounts for over 40% of Alberta's solid waste, of which 30% is biodegradable. Because the ICI sector deals in large amounts of waste, waste audits are important to determine the nature of the waste that is being generated.

On June 4, 2012 EWMCE invited leaders in the ICI sector to share their knowledge, experience, hopes, and solutions for the future of sustainable waste management. The primary message was the 'need to clearly understand the waste that is being generated and then determine the most cost effective solution to managing the organic portion of that waste'. EWMCE has completed two waste audits for the University of Alberta, providing information required for sound decision making. The U of A has taken the lead in the way large institutions manage organic waste diversion and waste utilization.

Technology options for Composting, Anaerobic Digestion, Dry Anaerobic Digestion and Thermal Conversion were presented with opportunities provided for participants to discuss the merits and challenges that each technology faces in realizing the resource potential from organic waste.

Working with Alberta Recycling Management Authority

EWMCE has been investigating the engineering requirements to use tire-derived aggregate (TDA) for landfills. In addition to this long-term research project for landfill leachate collection systems, the Education and Training Department has created two information bulletins designed to educate the general public about TDA and to inform engineers working with municipal clients who may choose TDA has an alternative to gravel .

New Solid Waste Courses at the Centre

Partnering with Alberta C.A.R.E has provided the Centre an opportunity to work with our smaller municipalities and rural centres, addressing their unique challenges. In March of 2013 we offered our *Composting for Rural and Small Communities* course in Camrose. With the support of the Alberta C.A.R.E. members we created a course that looked at the challenges smaller areas have when it comes to organic utilization. The first offering was successful and with some changes based on participant feedback we will be ready to offer the course again in the fall of 2013.