

# **Symposium on the Future of Energy Recovery from Wastes**

***October 31, 2013***

***Eaton Chelsea Hotel  
33 Gerard Street West, Toronto***

***Brought to you in partnership by:***

***University of Waterloo  
Columbia University  
Canadian Energy-From-Waste Coalition  
Canadian Plastics Industry Association  
Ontario Environmental Industries Association***

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Here's something you don't see every day - a unique opportunity to learn about energy recovery (ER) from an entirely different perspective.

Featuring impartial industry experts and academic researchers in a highly interactive forum, this unique, one-day symposium will present current findings on energy recovery within a broad waste management context with a focus on the issues of most concern to decision-makers and stakeholders. Participants will gain insights into knowledge gaps, policy options, and pathways to connect ideas with investment.

- ***Marco Castaldi*** of the City College of New York has been studying ER issues for 20 years and will bring his research and insight to bear with a look at the evolution of ER technologies and the state of available equipment. He may also offer a few prognostications about what the future holds.
- ***Sarah Foster***, an internationally recognized environmental health sciences consultant, will highlight the surprising results of an extensive study of environmental and human health and risk assessments. This is the first time such a comprehensive literature review has been presented in eastern Canada.
- ***Jason Chee-Aloy*** is one of Canada's leading energy analysts with a unique perspective on the energy half of the energy-from-waste debate. This will be an essential discussion for those interested in a power procurement, a standard offer program, or the design of a feed-in tariff.
- ***Greg Lyle***, one of Canada's pre-eminent pollsters and communicators, will dissect public attitudes on energy and waste issues, ascertain critical points of convergence, and explain how it's possible to build political support for controversial policies with growing public acceptance.
- ***Rick Brandes*** spent many years at the sharp point of the approvals process with the US EPA, and he'll share his insights into what it takes to convert good science into responsible and responsive policy.
- ***Bettina Kamuk*** of Ramboll Engineering in Denmark, has advised clients on scores of ER projects. She'll outline the planning guidelines that have satisfied the needs of municipalities and regulators.

**Who should attend?**

*Government officials* will better understand how progressive ER policies can drive sustainability goals, enhance waste diversion strategies, help manage waste streams in 4R and stewardship programs, and contribute to a more robust energy supply.

*Municipal representatives* will learn about the technologies available to recover resources and energy from post-recycled wastes, how and why planning and investment decisions have been made in other jurisdictions, and what questions to ask going forward.

*Academic researchers* will ascertain where current research is focused, what issues still require attention, and which stakeholders may be looking to collaborate in research projects to advance the state-of-the-art on those issues.

*Private sector business managers* will gain insight into future investment decisions and better understand how government, academics, and private business can work collaboratively to create a sustainable and robust future for ER.

Following this symposium, participants will understand the potential role of ER as both a power source and a waste solution, as well as the challenges of implementing such technologies.

A key goal of the symposium is to develop working groups that can continue to discuss and develop collaborations on research issues (technical, economic, and policy) to advance the knowledge-base in this field for a Canadian context.

# Agenda

8:45	<p><b><u>Welcome and Opening Remarks</u></b></p>	<p>Tracey Forrest Director Waterloo Institute for Sustainable Energy (wise.uwaterloo.ca)</p>
8:55	<p><b><u>Introductions and Ground Rules</u></b></p>	<p>John Foden President &amp; CEO PresterJohn Public Affairs (www.presterjohn.ca)</p>
9:00	<p><b><u>An Academic Review of Energy Recovery Applications</u></b></p> <p><i>A leading ER academic researcher will discuss the state of available technologies, the emergence of new and/or hybrid processes, and the costs and benefits of both.</i></p>	<p>Marco Castaldi Associate Professor, Chemical Engineering City College of New York (<a href="http://www.cclabs.org">www.cclabs.org</a>) (www.seas.columbia.edu/earth/wtert/)</p>
9:40	<p><b><u>Just How Safe Is Energy Recovery?</u></b></p> <p><i>With the results of an extensive literature review in-hand, this presentation will consider ER in the context of human health and risk assessment studies.</i></p>	<p>Sarah Foster CPF Associates Health + Environmental Risk Consultants Bethesda, Maryland (<a href="http://www.cpfassociates.com">www.cpfassociates.com</a>)</p>
10:20	Networking Break	
10:40	<p><b><u>Energy Recovery as an Energy Source</u></b></p> <p><i>This session will highlight the practical benefits of ER as an increasingly important means of energy production, how ER will fit into long-term energy planning, and outline what can be expected from the next generation of equipment.</i></p>	<p>Jason Chee-Aloy Power Advisory LLC Toronto, Ontario (<a href="http://www.poweradvisoryllc.com">www.poweradvisoryllc.com</a>)</p>
11:20	<p><b><u>Public Opinion Polling and Stakeholders Communications</u></b></p> <p><i>This head of Canada's finest research agency will discuss public attitudes towards ER, and highlight ways to build political support for "controversial" policies with growing public acceptance.</i></p>	<p>Greg Lyle Principal Innovative Research Group Toronto, Ontario (<a href="http://www.innovativeresearch.com">www.innovativeresearch.com</a>)</p>
12:00	Lunch	
12:40	<p><b><u>Domestic and International Review</u></b></p> <p><i>Representatives from Europe and the US will discuss policy and political developments in their respective jurisdictions; explain why the industry continues to grow in the most progressive regions; and ascertain what these diverse policy regimes have to say about the challenges and opportunities presented by the enhanced utilization of ER technologies.</i></p>	<p>Bettina Kamuk Ramboll Engineering Copenhagen, Denmark</p> <p>Rick Brandes US Environmental Protection Agency (Retired) Washington, DC</p>
1:20	<p><b><u>A Canadian Review of Energy Recovery Technologies</u></b></p> <p><i>A review of past Canadian initiatives on ER research and</i></p>	<p>Steve Sawell Research Associate University of Waterloo</p>

	<i>international collaborations leading to the development of current national emissions guidelines and regulatory practices. In addition, the panelist will provide technical overview of existing and emerging ER technologies.</i>	
200	Networking Break	
2:20	<p><b><u>The Need For Waste Innovation In Canada</u></b></p> <p><i>Is there a role for advanced and innovative waste management in Canada? Several national R&amp;D 'capacity-building' options will be discussed including the development of an independent Canadian "institute."</i></p>	<p>Tracey Forrest Director Waterloo Institute for Sustainable Energy (wise.uwaterloo.ca)</p>
2:40	<p><b><u>A To Do List: Creating An Energy Recovery Action Plan</u></b></p> <p><i>In a highly interactive panel discussion of prominent researchers/visionaries will deliberate on the future of ER utilization and identify the research gaps that inhibit the adoption of advanced ER technologies that could help build and sustain a strong ER industry to serve Canada's municipal and industrial waste needs.</i></p> <p><i>With total audience engagement, this panel will guide a discussion to create a framework for building an ER action plan.</i></p>	<p><u>Bill Anderson, Professor &amp; Chair, Department of Chemical Engineering, University of Waterloo</u></p> <p><u>Daryl McCartney, Professor, Environmental Engineering, University of Alberta</u></p> <p>Marco Castaldi Associate Professor, Chemical Engineering City College of New York (<a href="http://www.cclabs.org">www.cclabs.org</a>) (<a href="http://www.seas.columbia.edu/earth/wtert/">www.seas.columbia.edu/earth/wtert/</a>)</p>
4:15	<b><u>Closing Remarks and Next Steps</u></b>	