

Waste-Based Energy

Opportunities in Energy Recovery and Gas Capture

Equip yourself with all the critical information affecting the development of Waste-Based Energy projects, including:

- National and regional developments in the public and private sectors
- The role of energy-from-waste projects within an integrated waste management system and in the waste management hierarchy
- All the critical components of planning a new facility, including community consultation, cost estimations, and the environmental assessment process
- Calculating the associated emissions for various energy-from-waste options to determine your best strategy
- Identifying and managing the associated environmental impacts and health concerns
- Implementing community relations programs
- The current state of emerging technologies
- Installing landfill gas collection systems to comply with new gas capture regulations

Plus! Take advantage of detailed instruction in our interactive pre-conference workshop: December 2nd, 2008 • 1:30 - 5:00 p.m.

Conducting a Health Risk Assessment and Evaluation for Energy-From-Waste Projects

Leader: **Dr. Chris Ollson**, Director – Environmental Health Sciences
Jacques Whitford Limited

Hear from industry leaders and experts including:

Alter Nrg
Association of Municipalities of Ontario (AMO)
Canadian Energy-From-Waste Coalition (CEFWC)
Canadian Institute for Environmental Law and Policy (CIELAP)
Comcor Environmental Limited
Genivar Consulting
Golder Associates Inc.
HDR Engineering

Jacques Whitford Limited
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Waste generation is increasing. Power suppliers are searching for sources of renewable energy.

Is there a Win-Win solution?

Recovering energy, whether through thermal treatment plants or landfill gas capture, is an opportunity to deal with multiple resource management issues at once.

But as with many waste issues there are challenges, and whether you are trying to develop an integrated waste management strategy, sorting through your best options for energy recovery, or going through the regulatory approval process for a new facility, **The Canadian Institute's "Waste-Based Energy"** conference will be your chance to learn critical information on the state of waste management strategies, technologies, and policies affecting the development of waste-based energy projects.

Join us and hear about exploring your options and all the necessary consultation, assessment, and business processes involved in planning and building new EFW facilities, including:

- Engaging with stakeholders and the community to build public support for your project
- Conducting risk assessments to determine environmental, air quality, and human health risks and potential impacts
- Building a business case and negotiating contracts
- Exploring your financing options, including revenue opportunities
- Assessing site options

Don't miss this opportunity to network with waste management leaders and experts from across North America. Join your colleagues and competitors on December 3rd and 4th, 2008 for this important event. Register today by calling **1-877-927-7936** or online at **www.CanadianInstitute.com/wbe**

Who should attend:

- Directors of Public Works
- Municipal Waste Managers
- Waste policy and planning
- Landfill owners and operators
- EFW technology providers
- Environmental lawyers, consultants, and engineers
- Regional, Provincial and Federal departments of environment and energy
- Gasification technology companies
- Regional power authorities

Whether you are part of the waste management industry or involved with power supply, this new conference is one you can't afford to miss!

DON'T MISS A SINGLE DETAIL!

All delegates to The Canadian Institute's **Waste-Based Energy** will now receive a complimentary CD ROM with full colour graphs, charts and presentations from the conference.*

Great for sharing with co-workers and clients!

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* CD ROMs will be distributed to delegates onsite as part of their registration package

Distinguished Faculty

CONFERENCE CO-CHAIRS:

Trevor Pettit

Manager, Business Development & Public Outreach, Liberty Energy
President, Titan Policy Consulting

John Foden

Managing Director
Canadian Energy-From-Waste Coalition (CEFWC)

SPEAKERS:

Milena Avramovic

Senior Policy Advisor
Association of Municipalities of Ontario (AMO)

Rod Bryden

CEO, Plasco Energy Group

Michael Cant

Vice President (Private), Municipal Waste Integration Network (MWIN)
Senior Solid Waste Planner, Ontario Region Waste Sector Leader, Golder Associates Inc.

Maureen Carter-Whitney

Research Director, Canadian Institute for Environmental Law and Policy (CIELAP)

Matthew Dugan, P. Eng

Engineering Plant Manager
Comcor Environmental Limited

Frank Ferraro

Vice President of Public Affairs
Wheelabrator Technologies Inc.

Shawn Heier

Director of Waste Energy, Alter Nrg

Mirka Januszkiewicz

Director of Waste Management Services
The Regional Municipality of Durham

Mike Lepage

Principal, Certified Consulting Meteorologist, RWDI

David Merriman

Solid Waste Practice Leader, Genivar Consulting

Wes Muir

Director, Corporate Communications
Waste Management Inc.

Wilson Nolan

Chief Executive Officer, Liberty Energy

Dr. Chris Ollson

Director – Environmental Health Sciences
Jacques Whitford Limited

Paul Pabor

Vice-President, Renewable Energy
Waste Management Inc.

John Tidball

Certified Specialist (Environmental Law)
Miller Thomson LLP

Ralph Torrie

Vice President, ICF International

John Willms

Managing Partner
Willms & Shier Environmental Lawyers LLP

Shawn Worster

Senior Project Manager, HDR Engineering

Register at 1-877-927-7936 or in Toronto 416-927-7936 or www.CanadianInstitute.com/wbe

8:00 **Registration Opens and Coffee Served** ☕

9:00 **Opening Remarks from the Conference Co-Chairs**

Trevor Pettit

Manager, Business Development & Public Outreach
Liberty Energy
President, Titan Policy Consulting

John Foden

Managing Director
Canadian Energy-From-Waste Coalition (CEFWC)

9:15 **Examining the Current State of Waste and Energy in Canada**

John Foden

Managing Director
Canadian Energy-From-Waste Coalition (CEFWC)

What is the state of the EFW industry in Canada? This session will provide an overview, and highlight recent developments in both the public and private sectors that are impacting project progress.

- Outlining the state of EFW technology
- Highlighting developments in the US, Europe, and Asia
- Assessing progress being made by public sector decision makers and regulators
- Recommendations for managing opportunities and opposition in the future

9:45 **Energy and Waste in Ontario: The Current Regulatory Climate**

John Tidball

Certified Specialist (Environmental Law)
Miller Thomson LLP

- Status of EFW projects under the Environmental Assessment Act
- Developments in EPA Part V approvals
- Assessing the impact of recent MOE directives to the OPA on diversification of the energy supply
- Analyzing the OPA's Standard Offer Programs one-year in

10:15 **Networking Coffee Break** ☕

10:30 **The Role of Energy-From-Waste in the Context of Integrated Waste Management Systems: Compatible or Competitive?**

Maureen Carter-Whitney

Research Director, Canadian Institute for Environmental Law and Policy (CIELAP)

Michael Cant

Vice President (Private)
Municipal Waste Integration Network (MWIN)
Senior Solid Waste Planner, Ontario Region Waste Sector Leader, Golder Associates Inc.

- Identifying the main drivers behind current diversion efforts and energy-from-waste projects

- Current status of long-term waste management strategies and landfill space in the province
- Reviewing the Waste Diversion Act: objectives and principles and the likelihood of future mandates
- Situating EFW within the hierarchy of waste options: how does it affect recycling efforts?

11:30 **Critical Components of Planning a New Energy-From-Waste Project**

David Merriman

Solid Waste Practice Leader, Genivar Consulting

- Identifying and engaging stakeholder groups to understand the needs of a community and allocate resources accordingly
- Exploring the constraints and flexibilities of private or public-private partnerships as financing options
- Estimating costs for various disposal options and identifying offsetting revenue opportunities
- Structuring the RFP process and procurement and contract negotiations to evaluate alternative technologies
- Assessing site options and establishing the right sized capacity to balance against other waste diversion efforts
- Projecting future waste streams and changes to consumer behaviour that could affect it

12:30 **Networking Luncheon for Speakers and Delegates**

1:45 **Case Study: Developing the Durham-York Thermal Treatment Project**

Mirka Januszkiewicz

Director of Waste Management Services
The Regional Municipality of Durham

Shawn Worster

Senior Project Manager, HDR Engineering

The regions of Durham and York have formed a partnership to develop a new thermal facility to recover energy from the residual waste that still remains after diversion. In 2005 and 2006, the regions shipped over 300,000 tonnes of waste to landfill, and if processed by a thermal facility, this would be capable of generating at least 150,000 megawatt-hours per year – enough energy to power about 15,000 homes. In this session, hear about the steps to develop this facility, including:

- Building the business case for the new facility
- Determining the key factors to consider when choosing a technology
- Identifying vendors and negotiating contracts
- Issuing an RFP
- Negotiating power purchase agreements
- Conducting site specific ecological risk assessments
- Managing emissions through a clean technology scrubbing system in order to meet EU standards

2:45 **Refreshment Break**



Algonquin Power Income Fund is an innovative, socially responsible participant in the renewable energy and utility sectors, with a diverse portfolio of assets across North America, including 41 hydroelectric facilities, one wind energy facility, five natural gas-fired cogeneration facilities, 12 alternative fuels facilities and 17 water distribution and waste-water facilities. Algonquin Power Income Fund's units are traded on the Toronto Stock Exchange under the symbol APE.UN, and units are included in the S&P/TSX Composite Index. More information about Algonquin Power Income Fund can be found at www.algonquinpower.com.

3:00 **Examining the Role and Impact of Extended Product Responsibility (EPR) Programs on the Waste Stream and the 4Rs**

Milena Avramovic

Senior Policy Advisor

Association of Municipalities of Ontario (AMO)

- Moving to full extended producer responsibility and shifting the cost burden for managing the printed paper, post consumer packaging, electronics, municipal hazardous and special waste and environmental costs associated with this material away from the municipal taxpayer and onto the product stewards
- Considering the potential for a waste-to-energy or a landfill component in the programs
- Evaluating what materials are suitable for energy recovery or recycling
- Assessing whether EPR programs are diminishing the garbage stream and moving towards achieving zero waste

3:45 **Managing Risks: Overcoming the Public Perception Challenge Facing Waste Management Options**

Wes Muir

Director, Corporate Communications
Waste Management Inc.

Harry Dahme

Certified Specialist (Environmental Law)
Gowling Lafleur Henderson LLP

- Examining changing public opinions about incineration, EFW, landfills, and other waste issues
- Engaging in the public consultation process to help define the concerns and highlight the most favourable actions
- Implementing community relation programs on waste management issues
- Understanding the risks of not gaining enough public support for a project: what is the baseline level necessary?
- Conducting the necessary health risk assessments to address concerns about any potential health impacts

4:45 **Chair's Recap and Conference Adjourns**

DAY 2

8:30 **Coffee Served ☕**

9:00 **Opening Remarks from the Conference Co-Chairs**

9:15 **Assessing Global and North American Initiatives in Energy-From-Waste**

Shawn Heier

Director of Waste Energy, Alter Nrg

Frank Ferraro

Vice President of Public Affairs
Wheelabrator Technologies Inc.

- Considering relevant lessons from international developments and research in EFW to advance its use in Canada
- Comparing emissions from EFW facilities to those of conventional fossil fuel power plants

- Developing a solid waste management plan that includes EFW
- Examining the successful application of plasma technology at Hitachi Metals in Japan

10:15 **Networking Coffee Break ☕**

10:30 **Capturing Landfill Gas: Implementing New Collection Systems to Reduce Emissions and Generate Renewable Energy**

Paul Pabor

Vice-President, Renewable Energy
Waste Management Inc.

Matthew Dugan, P. Eng

Engineering Plant Manager
Comcor Environmental Limited

The Ontario Ministry of the Environment's Waste Management Policy Branch has finalized new Landfill Gas Regulations that require all operating landfills larger than 1.5 million cubic metres to put methane collection systems in place by 2010. It is expected that this will cut over four million tonnes of greenhouse gas emissions per year, and the collected gas will be a source of renewable energy that can be used either on-site or sold to the grid. This session will examine critical issues behind constructing a gas to energy facility, including:

- Tackling the NIMBY and sustainability challenge of locating or expanding landfills
- Projecting volumes of gas recovery and its relationship to the quantity and quality of garbage
- Exploring market options: creating your own power supply, gaining access to the grid, being commercially-viable, or piping direct to another facility
- Meeting the necessary environmental regulations and noise protocols to obtain permits
- Examining the costs and benefits of current gas capture technology
- landfill gas collection system design, engineering, construction, monitoring, and maintenance

11:30 **Maximizing the Economic Value of Residual Waste through Gasification Technologies**

Rod Bryden

CEO, Plasco Energy Group

Plasma gasification technology is currently being tested in a demonstration plant at Ottawa's Trail Road city landfill. While the results there are still preliminary, the city has already voted to approve using the same system in a new full-sized facility, which is expected to take in over four hundred tonnes of garbage a day. The provincial approval process could take up to two years to complete, and while meeting emission limits will be a main priority, plasma gasification will still need to prove itself in other areas, including:

- Examining the new gasification technologies and evaluating their efficiencies for different feedstocks
- Evaluating the environmental impact compared to other waste management options
- Maximizing the energy conversion: how much value can be generated from waste?

12:30 **Networking Luncheon for Speakers and Delegates**

1:45 **Undertaking an Environmental Screening Report: The Environmental Assessment Process and the Liberty Energy Case Study**

John Willms

Managing Partner
Willms & Shier Environmental Lawyers LLP

Wilson Nolan

Chief Executive Officer, Liberty Energy

- Examining how EFW fits within Ontario's Environmental Assessment Act framework
- Air approval requirements under O. Reg. 419/05
- Analyzing the impact of the Lafarge decision on EFW approvals
- Using biosolids (sewage sludge) and biomass as a fuel for a proposed thermal electric power plant
- Undertaking the environmental screening process and conducting ecological risk assessments to assess potential emissions and the cumulative air quality impact
- Managing fly ash, stormwater, biomass, and odours to minimize risks to the environment and human health
- Projected effects on waste management in Hamilton and projected delivery to the local power grid

2:45 **Refreshment Break**

3:00 **Mapping the Environmental Footprint of Waste Treatment Options to Capitalize on Emission Reduction Opportunities**

Ralph Torrie

Vice President, ICF International

- Using waste and greenhouse gas models to make life cycle calculations to determine the disposal method with the lowest associated emissions
- Developing GHG emissions profiles on a material by material basis
- Comparing impacts of different municipal solid waste management options to develop an integrated strategy
- Evaluating the best mix of treatment options according to local circumstances and conditions
- Collecting and inputting the necessary data for accurate modeling

3:45 **Examining Health Risks Associated with Air Quality**

Mike Lepage

Principal, Certified Consulting Meteorologist, RWDI

- Assessing exposure to air pollutants: identifying key contaminants, assessing baseline conditions, estimating emissions, predicting ambient concentrations
- Identifying other exposure pathways besides inhalation: deposition of contaminants on soils, water, and vegetation
- Using existing health-based standards and reference levels for air pollutants and establishing standards where existing ones are absent
- Addressing public concerns: baseline monitoring, follow-up monitoring, stack testing, real-time prediction systems, and optimizing monitoring programs

4:30 **Closing Remarks from the Conference Chair, Conference Concludes**

December 2nd, 2008 Pre-Conference Interactive Learning Session: 1:30-5:00 p.m.

Health Risk Assessment and Evaluation for Energy-From-Waste Projects

Workshop Leader:

Dr. Chris Ollson

Director – Environmental Health Sciences
Jacques Whitford Limited

Although the engineering options analysis and business case may both strongly support the use of EFW technology for managing your residual solid waste, for the project to move forward issues surrounding the potential effect on public health must be addressed. Although EFW technology is emerging as an alternative in Ontario for waste management, the general public often do not have a good understanding how new facilities, employing state-of-the-art pollution control technology, are operating in a safe manner around the world. The need to demonstrate that chemical emissions to air from your proposed facility will not have an impact on human or ecological health has become integral to the Environmental Assessment process in Canada.

This session will focus on the regulatory and technical requirements for conducted health risk assessments in support of siting and gaining regulatory approval for operating an EFW facility in Canada.

Attend this half-day workshop and learn:

- An overview of potential health risks and concerns related to EFW emissions
- How to develop chemical emissions inventories
- To make the linkages between air modeling and health risk assessment
- Risk assessment fundamentals
- Aspects of baseline data collection
- Approaches to completing your facilities emission risk assessment
- How to mitigate potential health risks
- Approaches to public and stakeholder consultation

Register early to reserve your spot!

Chris Ollson, Ph.D. is Director of Environmental Health Sciences for Jacques Whitford Limited. He is recognized by the Ontario Ministry of the Environment as a Qualified Person Risk Assessment and as a Qualified Toxicologist through the Air Standards Development Branch.

Throughout his career, Dr. Ollson has led numerous multidisciplinary environmental health assessments and facilitated community consultation and risk communication for both industry and government agencies across Canada and internationally.

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Maximize your organization's visibility in front of key decision-makers in your target market. For more information, contact Senior Business Development Executive Christopher Neely at 416-927-0718 ext. 313, toll-free 1-877-927-0718 ext. 313 or by email at c.neely@CanadianInstitute.com

Register at 1-877-927-7936 or in Toronto 416-927-7936 or www.CanadianInstitute.com/wbe

December 3rd - 4th, 2008
 Marriott Bloor Yorkville, Toronto, ON

Waste-Based Energy

Opportunities in Energy Recovery and Gas Capture

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STEP 1

CONFERENCE CODE: 226V09-TOR

YES! Please register the following delegate for Waste-Based Energy

For group discounts please
 call 1-877-927-0718

FEE PER DELEGATE	Register & Pay by November 5, 2008	Register & Pay after November 5, 2008
<input type="checkbox"/> Conference Only	\$1895 + 5% GST = \$1989.75	\$2095 + 5% GST = \$2199.75
<input type="checkbox"/> Conference + Interactive Learning Session	\$2390 + 5% GST = \$2509.50	\$2590 + 5% GST = \$2719.50
<input type="checkbox"/> I am attending, please add the conference materials BINDER to my order \$195 + \$21.95 (S & H) (+applicable taxes) Conference participants will receive a CD-ROM of the conference materials as part of their conference registration fee. Workshop materials will be provided separately.		

STEP 2

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STEP 3

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For information on hotel room availability and reservations, please contact the Marriott Bloor Yorkville hotel at 416-961-8000. When making your reservation, please ask for "The Canadian Institute's Corporate Rate".

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Payment must be received in full by the conference date. All discounts will be applied to the Conference Only fee (excluding add-ons), cannot be combined with any other offer, and must be paid in full at time of order. Group discounts available to individuals employed by the same organization.

Cancellation and Refund Policy

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