International Energy Symposium October 31, 2013 –

Notes by: Mona Sorensen

Marco Castaldi
Associate Professor, Chemical Engineering
City College of New York

Waste to energy will increase in the future.

Europe is the leader in waste to energy due to lack of landfill, environmental awareness and protection of environment for the future.

Countries that move away from landfill have higher composting, recycling and thermal waste to energy.

Benefit of waste to energy in New York would be 11 million miles not driven by landfill waste trucks saving on road infrastructure, fuel to operate trucks…

Thermal facility can be small scale to large scale depending on geographic location size and community needs and requirements.

All types of thermal facilities yield gaseous emissions. Combustion facility is most efficient to extract and generate thermal energy.

Thermal facility emissions meet environmental standards both EPA and EU

Need more research to reduce erosion of systems.

Need more research for novel uses of ash.

Sarah Foster
CPF Associates Health & Environmental Risk Consultants
Bethesda, Maryland

Public health environmental assessment of waste to energy facilities have shown newer facilities in compliance EPA HRAP due to continuous monitoring and assessment

Modern facilities do not adversely impact human health or the environment

Current regulations very effective in limiting emissions and thus risks

Jason Chee-Aloy
Power Advisory
LLC Toronto, ON

Ontario electricity sector supply demand increase was vast and growing since 2000
However, now less industrial demand now due to closures
Forecast for electricity demand growth is now only 1%

Coal fired plants to be shut down by end of 2014 and Nuclear plants closures upcoming due to required refurbishments would mean that there will be a gap by 2018 with a need of more electricity generation

Question of what type of facility to build to generate electricity and problem with alternative generation facility site available.

High cost is associated with the transmission of hydroelectric power sourced in the northern waterways. Other minimal sources are wind, bio and solar.

Need cost effective sources -Best is for energy generation located close to load center distribution system - Build more small units to supply local energy. Reference to European cities.

Ontario Energy Plan to be announced soon…need new policy to require municipal energy plans for energy accordance to be synchronized to encourage site locations for facilities. Municipalities need to take ownership.

Greg Lyle
Principal, Innovative Research Group
Toronto, ON

NIMBY

Public attitudes matter - need to sell the public –

Need to communicate the energy problem, sell the problem before you can sell the solution. Sell ER solution as better that the evil of existing problem. Need to raise public awareness of the benefits to the environment, potential employment opportunities, ER not just a way to deal with garbage.

Goal is to secure and receive permission form the local community.

- Establish need
- Does the site make sense
- Proponent seen to be impacting fewest number of people
- Treating people fairly also leads to project support, negotiate with neighbours

Energy from waste awareness still not public enough. Need to create more awareness of the proven technology, capacity, lower carbon footprints, which are all strong points in favor.

Bettina Kamuk
Ramboll Engineering,
Copenhagen, Denmark

WTE is complicated but rewarding. Disposal or recovery?

In Denmark, waste management and energy policy goes hand in hand

Important to integrate ER facility design to community appeal and to allow for recreational use

Rick Brandes
US Environmental Protection Agency (Retired)
Washington, DC

Sustainability and growth of WTE to zero waste with 100% renewable energy
Time of transition? How? local decisions important to move forward.

WTE systems are really waste management and are not energy producers

WTE needs to be local decision with community input. Unions can drive the "yes" decision.

Steve Sawall, Research Associate
University of Waterloo

Basic research to set up guidelines, regulations, facility tests on emissions, resins, ashes all results relate to what goes in, how it is combusted within incinerator so it is important to control what goes in with respect to energy output, emissions and resins

Report filed 1995 with Environment Canada

NITEP, national Incinerator Testing and Evaluation Program
CCME operating and emission guidelines

Annual update on MSW incinerators facilities 1998-2011

Ontario Ministry of Environment best practices on Thermal treatment and energy recovery report- meet all EPA standards

BOOK - Municipal Solid Waste Incinerator Residues
By A.S. Chandler, S.E. Sawell
ISBN 0 444 – 82563 - 0

Tracey Forrest, Director
Waterloo Institute for Sustainable Energy (WISE)

Need a hub for waste management research and policy to advance Canada's sustainable energy to waste future

Hub needed for network to educate everyone including the public and investment sector

Hub needed to enable convergence of three essential inputs;
- Industry input
- Innovative research and development
- Government leadership

Hub focus:
- Creation of knowledge
- Industrial research and commercialization
- Development of skilled people (employment)
- Visibility and awareness
- Public policy and social acceptability

Need Research Chair, virtual networks and online central repository for information

Panel discussion

Anderson

Isolated researchers and policy makers cannot make efficient progress on the larger question

Work need regulation and national contacts

Need co-ordination and synergy to find the right solutions

Marco

Gap on informed public and industry – need to coordinate communications – need a celebrity to promote attention to WTE to raise profile for WTE NEED

Changing waste stream due to recycling etc. - need research on waste mix for thermal energy

McBean

Need to increase research of corrosion, repairs and maintenance, ash use/disposal for viable cost of operation of WTE to be sustainable

Aggressive recovery of energy from solid waste thru bioreactor engineering
Landfill sites use to gasification

SUMMARY

NEED for HUB

-Need to collaborate researchers universities

-Need to link researchers / technology / to operations, industry, municipal operations to implement cost sustainable model

-Need research to establish if recycling is viable waste solution or should the waste stream go to WTE

Need for a streamlined energy policy both National and Provincial to implement streamlined Municipal energy policies

Need economic incentives

Need major political campaign

Need to communicate the energy problem in order to sell the public on ER solution
Suggestion to raise public awareness of ER-celebrate successes of ER through press releases - participate in trade shows