

## Plastic Shopping Bags and Energy Recovery

- Plastic shopping bags are a good source of energy as they are pieces of “frozen natural gas”. The polyethylene in a plastic bag has a calorific value very similar to home heating oil and natural gas. When burned, polyethylene in plastic bags gives off more energy than the equivalent quantity of coal.
- A six-gram plastic shopping bag contains about the same energy as six grams of natural gas. According to Plastics Europe, one plastic bag has enough energy to run a 60-watt light bulb for 10 minutes.
- The energy within a plastic shopping bag can be used in the production of electricity or steam for heating in an energy-from-waste (EFW) facility – reducing the need for coal for producing energy, by virtue of being a cleaner burning fuel.
- Energy from Waste (EFW) is combustion of municipal solid waste for energy. Combusting plastic shopping bags is NOT burning garbage ... it is the same as burning natural gas for energy.
- Federal Infrastructure and Communities Minister John Godfrey told the Association of Municipalities of Ontario on August 16, 2005 that waste-disposal projects, including some that could include incineration, are eligible for funding from the New Deal for Cities program.
- EFW is a clean, reliable and renewable source of energy in an energy-starved world.
- In fact, EFW is cleaner than typical coal-fired power plants
  - the performance of Canada’s 4 EFW plants is excellent; they operate far below the permitted emission levels set by CCME Canada Wide Standards, some of the most stringent standards in the world
  - Statistics show that 190 families burning their garbage in a backyard barrel contribute as much dioxins in one year as an EFW plant processing 200,000 tonnes of household waste.
- EFW is also part of the solution to reducing greenhouse gas (GHG) emissions, and could help Canada meet its Kyoto commitments ... by using EFW as a strategy rather than landfilling, we can reduce the quantity of methane – a potent greenhouse gas – and help Canada reach its Kyoto

- commitments. (Reference: Determination of the Impact of Waste Management Activities on Greenhouse Gas Emissions, draft report prepared by ICF for Environment Canada and NRCan, 2005).
- Yet Canada lags far behind other developed nations in implementing EFW.
  - Worldwide, there are over 600 EFW facilities in 35 countries with an installed capacity of 130 million tonnes
    - the U.S. has over 100 facilities with a capacity of 30 million tonnes
    - Europe has over 260 facilities with a capacity of 40 million tonnes
    - Canada has only 4 plants with a capacity of about 750,000 tonnes (Charlottetown, Quebec City, Peel Region, Burnaby)
  - In Canada, only about 4 per cent of Canada's waste goes to EFW, compared to:
    - 70 per cent in Japan
    - 70 per cent in Switzerland
    - 55 per cent in Sweden
    - 35 per cent in Germany
  - In Canada, we bury our waste in large, long-term landfill sites ... often transporting the waste long distances.
  - Assuming that 2 million tonnes of municipal solid waste is diverted to composting each year, the diversion of the remaining 7 million tonnes from landfill to EFW would:
    - provide electricity to more than one million homes ... saving the equivalent of almost 17 million barrels of oil a year
    - reduce annual GHG emissions by more than one million tonnes (Source: Data based on Determination of the Impact of Waste Management Activities on Greenhouse Gas Emissions, draft report prepared by ICF for Environment Canada and NRCan, 2005)