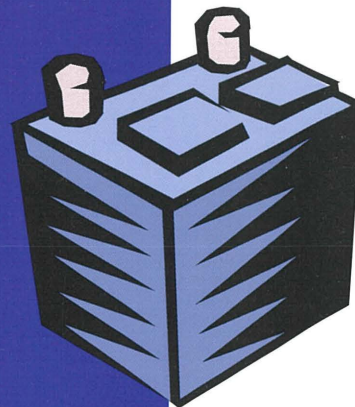


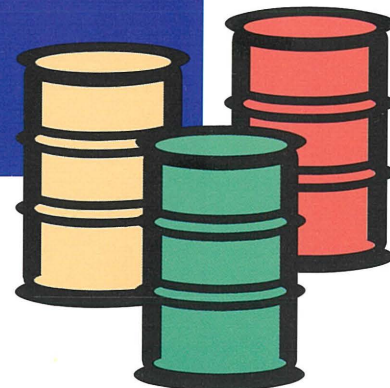
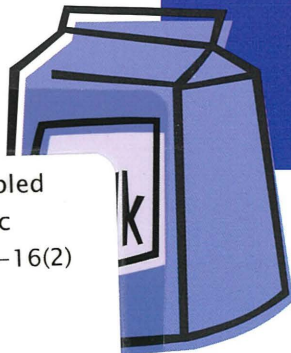


To all NWT Residents



Help decide what new waste products to recycle across the NWT

A GNWT Discussion Paper  
December 2007



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## Why have a discussion paper?

The Government of the NWT (GNWT) wants people to think about **what new waste products we should recycle next, across the NWT**. Please read the discussion paper and share your ideas.

This discussion paper looks at seven different waste products:

- Electronics
- Lead acid batteries
- Plastic grocery bags
- Paper and cardboard
- Tires
- Fuel drums / scrap metal
- Milk containers

We can't do everything at once. What waste product(s) are most important to recycle next with a territory-wide program? What recycling programs will most benefit the NWT?

Share your ideas. Fill out the questionnaire at the end of the discussion paper and send it to:

**Environmental Protection Division**, Department of Environment and Natural Resources (ENR), GNWT

**Phone:** 1-867-873-7654      **Fax:** 1-867-873-0221

**Email:** [nwtrecycle.nt.ca](mailto:nwtrecycle.nt.ca)

**Web:** <http://www.enr.gov.nt.ca/eps/index.htm>

**Mail:** Box 1320, Yellowknife, NWT X1A 2L9

If you want more details about the products, look at the Background Paper on the website or get a copy from ENR.



## Recycling vocabulary

**Ban or landfill ban:** A law that says people can't put certain things in the garbage and the landfill. A community, region, or province or territory can make the law. They often use it to support recycling.

**Example:** A community bans cardboard from the landfill; businesses put cardboard in a separate dumpster and residents take cardboard to drop-off bins for recycling.

**CO<sub>2</sub>EQ:** Means carbon dioxide equivalent. It's a common way to measure greenhouse gases (GHG).

1000 kilograms CO<sub>2</sub>EQ = 1 tonne CO<sub>2</sub>EQ

**Collection event:** A special day, time, and place to collect certain products. **Example:** Household hazardous waste days.

**Curb side:** A system to collect things at each house. Many NWT residents have curb side pickup for garbage. Some Canadian cities have curb side pickup for products they recycle.

**Territory-wide program:** A recycling program that applies to the whole Northwest Territories. Every NWT resident and community can participate and benefit. Separate from community-based programs, such as City of Yellowknife recycling bins.

**Example:** NWT Beverage Container Program - the only territory-wide RECYCLING program we have right now.



## Recycling helps people, the land, and the economy

### People and communities

- Recycling helps people and communities learn more about waste and how to manage it better.
- Recycling means people have less garbage. Landfills last longer. Recycling saves landfill space and tax dollars.

### Land

- When we make things from recycled materials we use less energy and produce less greenhouse gases (GHG).
- When we use recycled materials, we reduce the pollution, energy, greenhouse gases, and other harmful impacts from mining, transporting, and processing raw materials.
- Recycling helps keep toxic materials away from the air, land, and water.

### Economy

- We save money when we recycle - when we use less energy and produce less GHG and pollution.
- Recycling produces raw materials that become part of the economy. We depend less on limited non-renewable resources. Example: Recycling provides about 45% of all the world's steel and nearly 40% of all the copper.
- Recycling provides 10 times more jobs than if we put products in a landfill.
- Recycling programs can support research to help develop local industries.



## Common kinds of recycling programs in Canada

### Deposit-refund

- People pay a surcharge when they buy a ready-to-serve drink.
- Surcharge = refundable deposit + handling fee.
- People return the container and get the deposit back as a refund.
- Handling fees pay to collect and recycle containers.
- Laws define the surcharge, refunds, and fees for different containers.
- **Examples:** Every province, NWT, and Yukon has a beverage container deposit-refund program.
- **Beverage container programs are the only recycling program that use the deposit-refund system.**

### Recycling fees only

- People pay a recycling fee when they buy certain products. They get **NO** refund when they return the product for recycling.
- Recycling fees pay to collect and recycle products.
- Laws define the products and recycling fees.
- **Example:** Tire programs in Yukon and all provinces; programs for electronics, lead acid batteries, and milk containers in some provinces.

### Voluntary

- No laws.
- Businesses and communities set up their own program.
- **Example:** Some grocery stores collect plastic grocery bags and recycle them.





## Electronics

Electronics include things such as computer equipment, TVs, phones, digital cameras, rechargeable batteries, and microwaves. Electronic products each contain a mix of raw materials: steel, plastics, copper, aluminum, glass, lead, and other heavy metals.

### What happens right now in the NWT?

- NWT produces about 317 tonnes of electronic waste per year: 0.9% of total waste stream. Electronic waste is growing three times faster than other kinds of waste.
- NWT residents throw electronics in the garbage.
- NWT Assoc. of Communities passed a resolution to encourage the GNWT to develop a program to collect and recycle electronics.
- NWT Computers for Schools program fixes computers and gives them to schools, libraries, and other non-profit programs.



### Recycling electronics saves energy and GHG

- Average 84% energy saved with recycled materials.
- One tonne recycled electronics saves an average 0.9 tonnes CO<sub>2</sub>EQ.

### Electronics recycling in other parts of Canada

- Laws and programs that charge people recycling fees that range from \$5 to \$45. People get no refund when they return electronics.
- Landfill bans and collection events.

### Recycle markets for electronics

- Recyclers take products apart to recover the raw materials. People need special training because some materials are toxic.
- Recycling markets exist in southern Canada for most of the raw materials that come from electronics products.





## Tires

Tires include car tires, truck tires, and off-the-road tires used in mining, agriculture, and industry. The main materials in tires are natural or synthetic rubber, carbon black, steel, and fibres.

### What happens right now in the NWT?

- NWT produces about 450 tonnes of waste tires per year: 1.2% of total waste stream. Communities have thousands of stockpiled tires.
- Communities store tires at the landfill. They may use whole tires as barriers at the landfill or other places. Stockpiled tires are a huge issue because they take up so much space and can cause a bad fire.

### Recycling tires saves energy and GHG

- 75% energy saved with recycled steel. 41% energy saved with retread tires.
- One tonne recycled steel saves 1.2 tonnes CO<sub>2EQ</sub>. One tonne retread tires saves 3.29 tonnes CO<sub>2EQ</sub>.



### Tire recycling in other parts of Canada

- All provinces and Yukon have laws that charge people a recycling fee. Fees range from \$4 to \$75 depending on the tire and program. People get no refund when they return tires.
- Programs use money from recycling fees to help develop local markets and produce new products from recycled tires.

### Recycle markets for tires

Southern Canadian markets use tires in four main ways: products made from whole tires, including retreads; products made from shredded tires, products made from tire crumb; burning tires for heat or electricity.



## Lead acid batteries

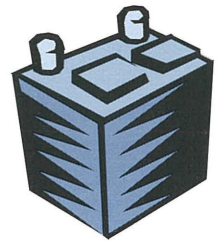
Lead acid batteries include starter batteries - used for cars, trucks, boats, ATVs, and snowmobiles; and deep cycle batteries - used for forklifts, golf carts, solar electricity, and boat and RV equipment. Lead acid batteries are mostly plastic, lead, and sulphuric acid.

### What happens right now in the NWT?

- NWT produces about 110 tonnes of waste batteries per year: 0.3% of total waste stream.
- NWT communities manage batteries as hazardous waste. They follow government guidelines to store and transport batteries.

### Recycling batteries saves energy and GHG

- 65% energy saved with recycled lead; 80% with recycled plastic.
- One tonne recycled lead saves 1.27 tonnes CO<sub>2</sub>EQ; one tonne recycled plastic saves almost 2 tonnes CO<sub>2</sub>EQ.



### Battery recycling in other parts of Canada

- Yukon and two provinces have laws and recycling fees, ban batteries from the landfill, and / or hold collection events.
- Retailers and scrap metal dealers collect and recycle batteries.

### Recycle markets for batteries

Batteries have a 97% recycling rate in North America. A new lead-acid battery contains about 60 to 80% recycled lead and plastic.

Recyclers first break up the batteries. Plastic, lead, and acid go to separate processors. Battery manufacturers buy recycled materials from the processors.

The cycle can go on and on. The lead and plastic in a lead-acid battery can be recycled many, many times.



## Fuel drums

Most fuel drums are made from steel; some are made from plastic. Some steel drums have a lining.

### What happens right now in the NWT?

- Communities have thousands of stockpiled drums.
- Drums are part of over 300,000 tonnes of stockpiled scrap metal.
- The amount of stockpiled scrap metal is eight times the total annual waste stream.

### Recycling drums saves energy and GHG

- 75% energy saved with recycled steel.
- One tonne recycled steel saves 1.2 tonnes CO<sub>2EQ</sub>.



### Fuel drum recycling in other parts of Canada

- No programs specific for fuel drums.
- Programs for scrap metal include various guidelines, landfill bans, and voluntary recycling.

### Recycle markets for fuel drums

Southern Canada has a well-developed steel recycling industry that is part of a large international market. Prices can change rapidly as they respond to changes in the international demand for steel.

International market value for scrap steel has a strong influence on the total amount recycled. Another key market factor is how clean is the steel.





## Plastic grocery bags

Two main kinds of plastic go into grocery bags: #2 HDPE or high-density polyethylene and #4 LLDPE or linear low-density polyethylene.

### What happens right now in the NWT?

- NWT produces about 40 tonnes of plastic grocery bag waste per year: 0.1% of the total waste stream.
- Most plastic bags go in the garbage and to the landfill. The land is covered with plastic bag litter.
- People re-use some plastic grocery bags for garbage or other things.

### Recycling plastic bags saves energy and GHG

- 75% energy saved with recycled plastic bags.
- One tonne recycled plastic bags saves almost 2 tonnes CO<sub>2</sub>EQ.



### Plastic bag recycling in other parts of Canada

- 850 retail stores have a voluntary program to collect plastic bags.
- Some community-based recycling programs accept plastic bags.
- Some places ban plastic bags from the landfill.

### Recycle markets for plastic bags

Plastic recycling markets want to receive and process plastic bags made from the same resin. They may not accept a mixture of plastic bags made from different resins.

Community-based recycling programs tend to collect a mixture of plastic bags. Retail stores that recycle their plastic bags tend to buy and collect bags made from just one kind of resin.



## Milk containers

Milk comes in three types of containers: plastic jugs made from #2 HDPE plastic; gable tops made from paperboard and plastic; and Tetra Paks made from paperboard, in six layers, with plastic and aluminum.

### What happens right now in the NWT?

- NWT produces about 354 tonnes of milk container waste per year: 0.9% of total waste stream.
- The City of Yellowknife collects and recycles plastic milk jugs.
- Most other milk containers go in the garbage and to the landfills.

### Recycling milk containers saves energy and GHG

- 80% energy saved with recycled #2 HDPE plastic.
- One tonne recycled #2 HDPE plastic saves 2.29 tonnes CO<sub>2</sub>EQ.



### Milk container recycling in other parts of Canada

- Four provinces have laws and programs with recycling fees. They offer no refunds.
- Some places, such as the City of Yellowknife, collect milk containers through community-based recycling programs.

### Recycle markets for milk containers

Recycling markets for #2 HDPE plastic are very accessible and reliable. Markets for Tetra Paks and gable top containers are more difficult to find and the materials are worth much less than HDPE plastic.



## Paper and cardboard

Most paper comes from tree pulp. It takes about 19 trees to make one tonne of paper. Most cardboard is made from old boxes, wood chips, shavings, and sawdust.

### What happens right now in the NWT?

- NWT produces about 13,320 tonnes of waste cardboard and paper: 37% of the total waste stream.
- The City of Yellowknife collects and recycles paper and cardboard.
- Offices in different communities may contract a local business to collect and recycle paper.
- A lot of paper and cardboard goes in the garbage and to landfills.



### Recycling cardboard/paper saves energy and GHG

- 64% energy saved with recycled paper.
- One tonne recycled cardboard saves 3.54 tonnes CO<sub>2EQ</sub>; one tonne recycled fine paper saves 4.38 tonnes CO<sub>2EQ</sub>; one tonne recycled newspapers saves 1.53 tonnes CO<sub>2EQ</sub>.

### Cardboard/paper recycling in other parts of Canada

- Some provinces, regions, and communities ban cardboard from the landfill. Some have laws and recycling fees.
- Many places collect paper and cardboard through community-based programs.

### Recycle markets for cardboard and paper

We use recycled paper and cardboard to make many different products. About 62 Canadian mills use recycled paper, including two mills that make newsprint with 75% or more recycled content. Canadian mills import recycled paper and cardboard for feedstock.





## Questionnaire

Please fill out the questionnaire and fax or mail it to Environment and Natural Resources (ENR). Or find it on our website.

1. Assume the NWT develops one territory-wide recycling program at a time. Please rank each product according to the order you believe the programs should happen. Give one main reason for each choice.

**1 = first or highest priority to 7 = last or lowest priority**

Ranking	Product	Main reason
	Electronics	
	Tires	
	Lead acid batteries	
	Fuel drums	
	Plastic grocery bags	
	Milk containers	
	Paper and cardboard	









