

附件六：尼加拉瓜區域資源回收物分類中心簡介

Niagara  Region

RECYCLING CENTRE

Visitor's Guide





Welcome to the Niagara Region's Recycling Centre

Garbage and hi-tech don't usually go together; but here they do. We'll see how the Region's Recycling Centre processes recyclables safely and efficiently, reducing landfill needs, creating jobs and earning revenue to support community services.

Niagara Region is a recognized leader in waste diversion. In 2007, residential waste diversion accounted for 41 per cent of the total residential waste generated in the region. We have a diversion target of 65 per cent by 2012.

Before we go further—thank you! You make this story possible. Your willingness to take a few minutes each day to sort your waste is the key to our success. Together, we are making Niagara Region

an award winning community that is on the road to sustainability.

The Niagara Region's Recycling Centre is a 9,300 square metre (100,000 square foot) facility that recycles materials from Niagara residences, schools, institutions and businesses. Niagara Recycling, a not-for-profit organization, operates the Recycling Centre on behalf of the Region. Close to 50,000 tonnes of recyclables was processed in 2007. In addition to reducing the need for landfill, the facility provides employment for developmentally challenged individuals. It also produces saleable by-products, such as Niagara Ecoglass.

How we process your recyclables



TIPPING FLOORS

Collection trucks enter through roll-up doors and deposit fibres (papers and cardboard) and containers (glass, plastic etc.) for processing. A front-end loader operator pushes these materials onto a conveyor installed below floor level. This conveyor transfers the material onto fibre and container conveyors that moves the materials to the pre-sort lines.



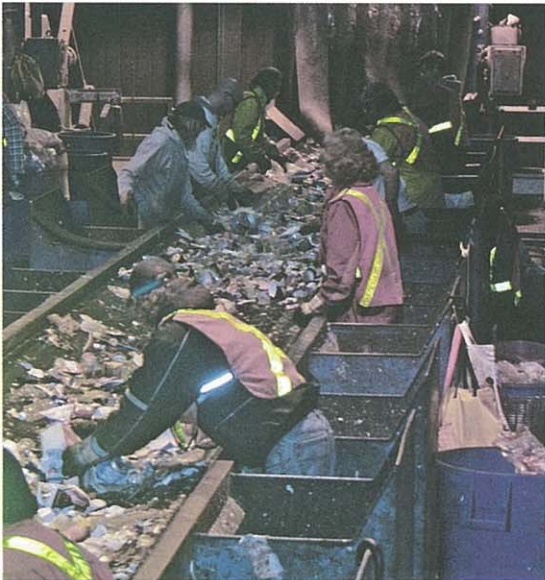
FIBRES PRE-SORT LINE

Line sorters separate and deposit non-fibre materials, such as garbage and film plastic into separate bunkers (large storage areas) below the lines. Fibre materials continue and pass over a screen, carrying large pieces of cardboard/boxboard to a storage bunker. A front-end loader pushes the cardboard/boxboard onto a conveyor belt so it can be baled. Newspaper, boxboard and other smaller fibre items fall through the screen onto another conveyor below. This conveyor leads to a secondary sort line.



SECONDARY SORTING FIBRES

The fibre line splits into two separate secondary lines. Here sorters remove boxboard, office paper and small pieces of cardboard. These materials are collected in bunkers under the secondary lines for baling. The remaining newsprint moves along the conveyor to a holding area. A front-end loader carries the loose newspaper into walking floor trailers for transport to end markets.



CONTAINERS PRE-SORT LINE

Line sorters separate and direct any fibre materials to the fibres pre-sort line and any non-recyclable items (garbage), plastic film, large plastic pails, polystyrene (Styrofoam) and other plastics into separate bunkers below the lines for baling. Remaining materials continue onto another conveyor running perpendicular to the pre-sort conveyor. At the end of this conveyor, a magnet removes steel cans and deposits the cans into a bunker for baling. The remaining glass, aluminum cans and foil, and plastics pass over a screen that has discs spaced two inches apart to allow broken glass and other small materials to fall through. This small material passes through a vacuum system to remove the light material from the broken glass. The glass is then conveyed to a storage bunker where it is then processed through the Glass Recycling System.



SECONDARY SORTING CONTAINERS

The larger plastic containers, glass bottles, aluminum cans and foil pass through an "air classifier" that separates the glass bottles from the lighter plastics and aluminum cans and foil.

The glass falls off the end of a conveyor into a storage bunker for processing at the Glass Recycling System. The light materials pass through a device that punctures and flattens all the plastic bottles. This material then falls onto a secondary sorting conveyor where plastics and aluminum foil are manually removed.

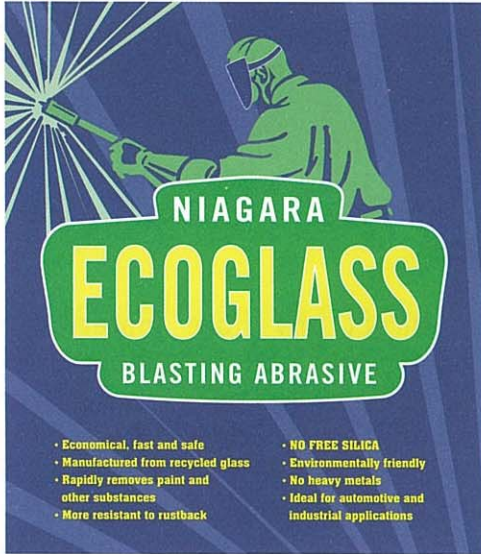
At the end of this conveyor, the aluminum cans pass over an "eddy current separator" that removes the aluminum cans automatically from any remaining material. The cans are blown into a storage silo for baling.



BALING

Sorted materials are compressed into bales under high pressure, then strapped together with wire and stored in loading areas for distribution to end markets. Bale weights range from 200 to 900 kilograms (500 to 1800 pounds), depending on the material. Newspaper and glass are the only materials not baled.

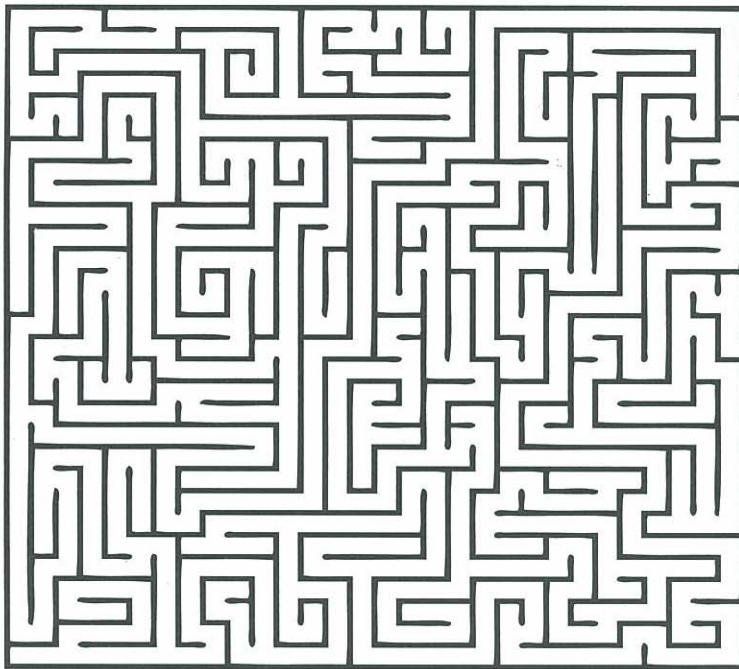
Success Stories



- Recycling earns revenues for Niagara Region.
- In 2007, the Region earned over \$6.7 million selling recycled material. These funds are used to offset waste management costs to the taxpayer.
- One of the stars of the resale program is Niagara Ecoglass. Ecoglass is manufactured from recycled glass containers in a new, state-of-the-art, \$1.2 million machine at the Recycling Centre.
- Niagara Ecoglass is sold mainly as a sandblasting abrasive, although it can also be used in cement, asphalt shingles, garden mulch, some paints, and in water filtration systems.
- Niagara Region and Niagara Recycling were honoured with a Silver Award in the Waste Diversion Operation category at the 2007 Recycling Council of Ontario's Waste Minimization Awards ceremony.

Help Sadie get her recyclables to the recycling centre!

By recycling, you help old things become new.



FINISH →



← START



Niagara Region
PUBLIC WORKS

4935 Kent Avenue, Niagara Falls, Ontario L2H 1J6
Waste Management Info-line: 905-356-4141 or 1-800-594-5542

www.niagararegion.ca

The Recycling Process

When **You** Recycle Everyone Wins!

GREY BOX MATERIALS TURN INTO...

Once your recyclables are picked up from the curb they are taken to the Region's Recycling Centre. From the Recycling Centre, materials are transported to end markets where their journey of changing into something new begins!



Household paper is turned into a pulp and then heated to separate the ink. Screens rid any contaminants from the pulp. The paper is combined with wood pulp to be pressed into new paper or made into paper towels.



Cardboard boxes are loaded into a pulper where water is added to create a slush. The filtered pulp is thickened with wood fibre and made into paper towels, gardening supplies such as flower pots, or Kraft paper.



Newspapers are mixed with water to create a pulp and the ink is separated off. Eventually the pulp can be pressed to form new paper products like fresh newspaper, paper egg cartons, wallboard or boxboard.



Plastic film is shredded, washed, and melted to form plastic beads. These beads are then manufactured into materials such as plastic lumber, speed bumps, siding for houses, or new plastic bags.

Did you know? In 2007, Niagara residents saved 382,964 trees by recycling newsprint through the Region's Grey Box Program?

Niagara  Region

For more information please visit the Region's website at www.niagararegion.ca or call the Waste Management Services Info-line at 905-356-4141 or 1-800-594-5542.

BLUE BOX MATERIALS TURN INTO...



High density plastics (#2) such as detergent bottles are sorted and ground into flakes. These flakes can form new materials such as plastic patio furniture, watering cans, flower pots, traffic cones, or drainage pipes.



Light weight PET plastics (#1) such as water and pop bottles are washed, ground into flakes, and molded into pellets to form new plastic products. The flakes may also be spun to form fibers to create thread, carpet or brush bristles.



Steel cans are first shredded or baled to compact them. They are heated and formed into new steel products like new steel cans, chains, pipes, or car parts.



Aseptic containers like juice boxes and milk cartons are recycled into paper towels, cardboard boxes, and tissues. These items are broken down into fibers which are cleaned and separated to create new products.



Glass bottles are sorted, washed and then manufactured into new glass bottles, fiberglass insulation, or reflective signs. The glass can also be crushed and used as a sand blasting abrasive like the Region's Eco glass product.



Aluminium Cans are sorted, crushed and baled. They are then shredded and melted to form long thin sheets of aluminium which are cut and rolled into new cans, CDs, or even passenger jets.

Did you know? Recycling uses less energy, is good for the environment and creates jobs.

Everything you recycle is put to good use!

附件七：GEEP(Global Electric Electronic Processing)簡介

global
ELECTRONIC
RECYCLING



geep

Global Electric Electronic Processing

Global Electric Electronic Processing - known as GEEP, provides a complete solution for the management of used technology and end-of-life electric, electronic and telecommunications waste.



Electronic and Telecommunications Asset Management

- We manage the process from end to end in an efficient and cost effective manner to assure our customers receive the best value for their equipment.
- Qualifying Assets:
Personal and notebook computers, LCD monitors and CRT monitors, printers, facsimiles, servers, networking equipment, telecommunications equipment, uninterruptible power supplies (UPS), racks, and other IT related assets.





Our Mission:

ZERO

LANDFILL OBJECTIVE

Vision Statement :

Our in-house processes and operational excellence coupled with genuine concern for the environment and innovative spirit make us the leaders and the first choice in the field of electronic recycling and waste diversion.


Mission Statement :

The mission of GEEP is to work collaboratively with clients to maximize their return on excess and end of life inventory in an environmentally safe manner with a zero landfill objective.



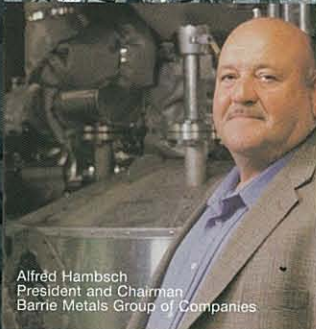
What is GEEP's solution to the growing issue of e-waste?

"We implement a global closed loop solution. Global because the waste product is identical all over the world. Our closed loop solution involves: proprietary software for global inventory tracking systems; refurbishing to secure information, data destruction and restoration for future use, remarketing of resaleable equipment; end-of-life destruction by processing waste electric and electronic material into commodities with complete assay and analysis of the composition and quality of the final commodity."



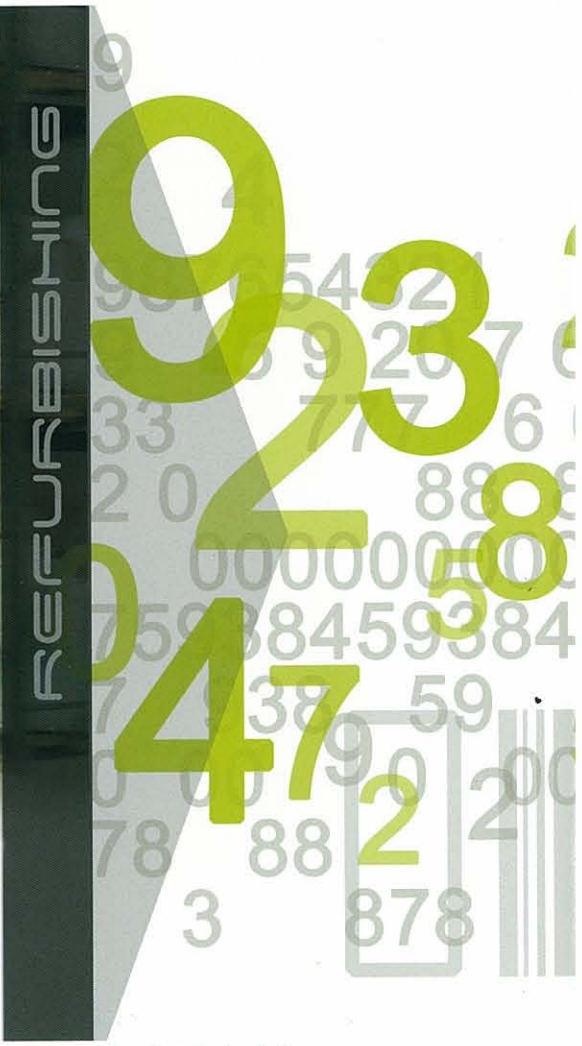
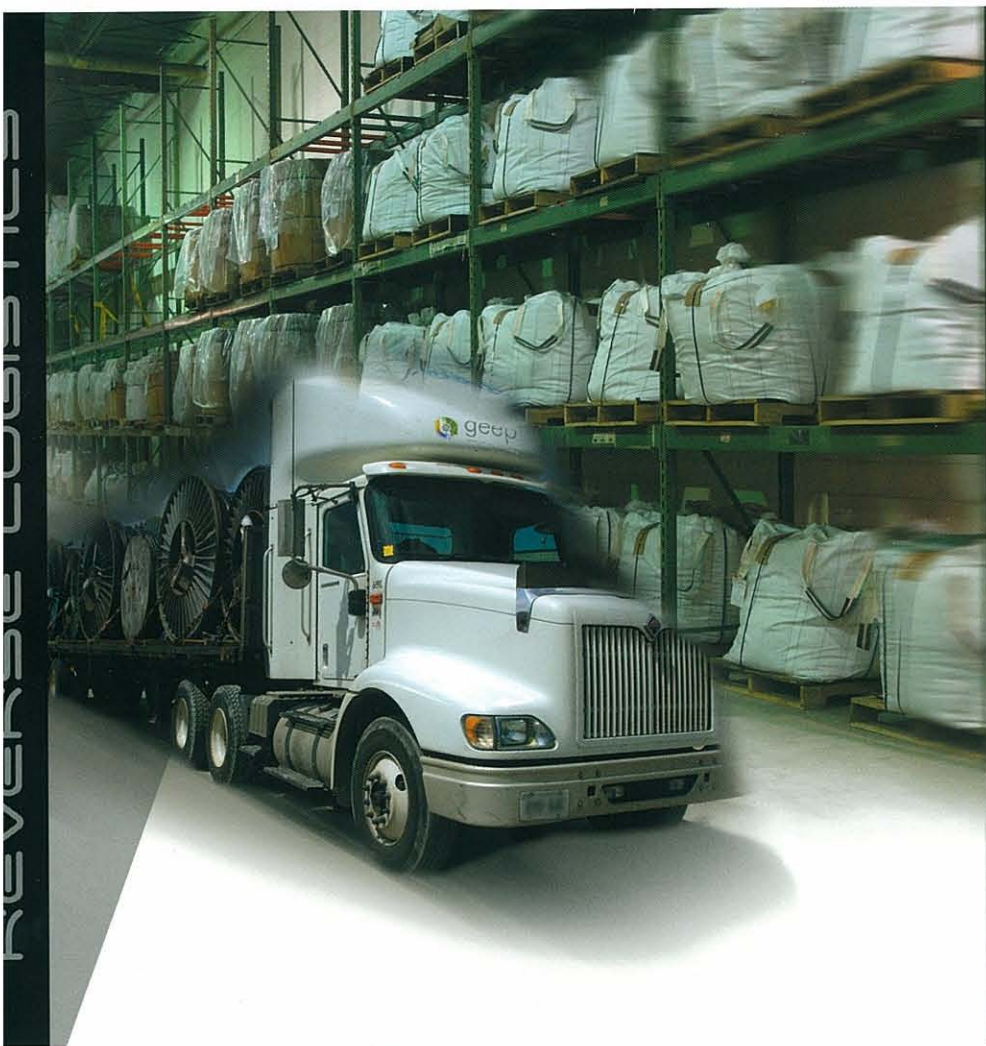
GEEP's unique solution for managing electronic waste is based upon:

- A unique business model of expansion by joint venture providing local solutions for a global issue
- A unique integrated global recycling footprint
- Utilization of proprietary recycling technology and tracking software
- A solid commitment to Research and Development to meet our stated objective of zero landfill. Our Nano Fuel technology takes mixed-plastic fractions and produces pure diesel fuel which will drive the generators creating electricity to run our plant.
- EBAN proprietary data sanitization software that meets the US Department of Defense Standards
- Full insurance coverage including environmental
- Documented and controlled environmental; health and safety policies, as well as emergency response and fire prevention plans
- Meeting and exceeding all applicable local, regional and national legislation including MOE (Canada) and EPA (USA)
- A complete open book downstream audit ability



Alfred Hambach
President and Chairman
Barrie Metals Group of Companies

What about personal and company information on these discarded computers?
 "When it comes to data security, we use EBAN, our proprietary technology and data sanitization software that meets the US Department of Defense Standards and European Standards to destroy all personal data. This issue is one main reason why so many computers are stored beyond their useful value. We give companies the peace of mind to allow us to manage their end-of-life electronic asset or waste computers by ensuring all valuable data is wiped clean or destroyed beyond recovery. We can do this in-house at any of our global locations OR at our customers' location."



Reverse Logistics

Shipping

- Using our proprietary software - Documented Chain of Custody Inventory Tracking and Control
- Pickup and transportation of Assets - Onsite asset type and serial number capture

Warehousing

- Over 400,000 square feet of warehousing space available
- Detailed listing of all incoming equipment utilizing electronic tracking system with bar coding
- Accurate inventory information provided to clients via secure web access
- Security systems and monitoring with 24 hour on-site personnel
- ESD protection
- Fully insured

Safe and Secure Inventory Management

Refurbishing

Diagnostic Testing - Data Sanitization

- Using Proprietary disk wiping software - Reconfiguration
- Customizable reporting
- Receiving - Assessment - Serial number capture
- Data erasure
- On or off-site data erasure
- Certificate of Data Erasure and Destruction
- Receiving
- Assessment
- Test and audit
- Repairs
- Hard drive imaging
- Cleaning

How do you help companies maximize their return on excess and end-of-life inventory?

“Companies often have desktop or laptop computers, networking equipment, printers, monitors, telecommunication and other computer equipment or electronic components that they want to dispose of. If there is any value remaining in these devices, we will receive them, refurbish them, and return them to the secondary market at competitive prices. We manage assets in such a way that gives companies the maximum return on their initial investment.”



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REMARKETING

Remarketing

Remarketing - Redistribution

- Tear down and parts resale
- Parts return
- Lease return/redeployment
- Packaging
- Inventory tracking and bar-coding system
- Trained resources on-site to market products
- Global access to purchasers
- Export department sells to approved end-users

Re-sale Options:

- Direct sale of high value products
- Wholesale
- Retail
- E-bay
- Auction



Equipment that has no residual value is dismantled, separated and recycled.

What is the first step in the recycling process?

“We are like a factory in reverse. Instead of assembling the components, we start by unpacking equipment. Then we segregate each component both manually and mechanically to separate circuit boards, steel, plastic, copper, aluminum as well as glass.”

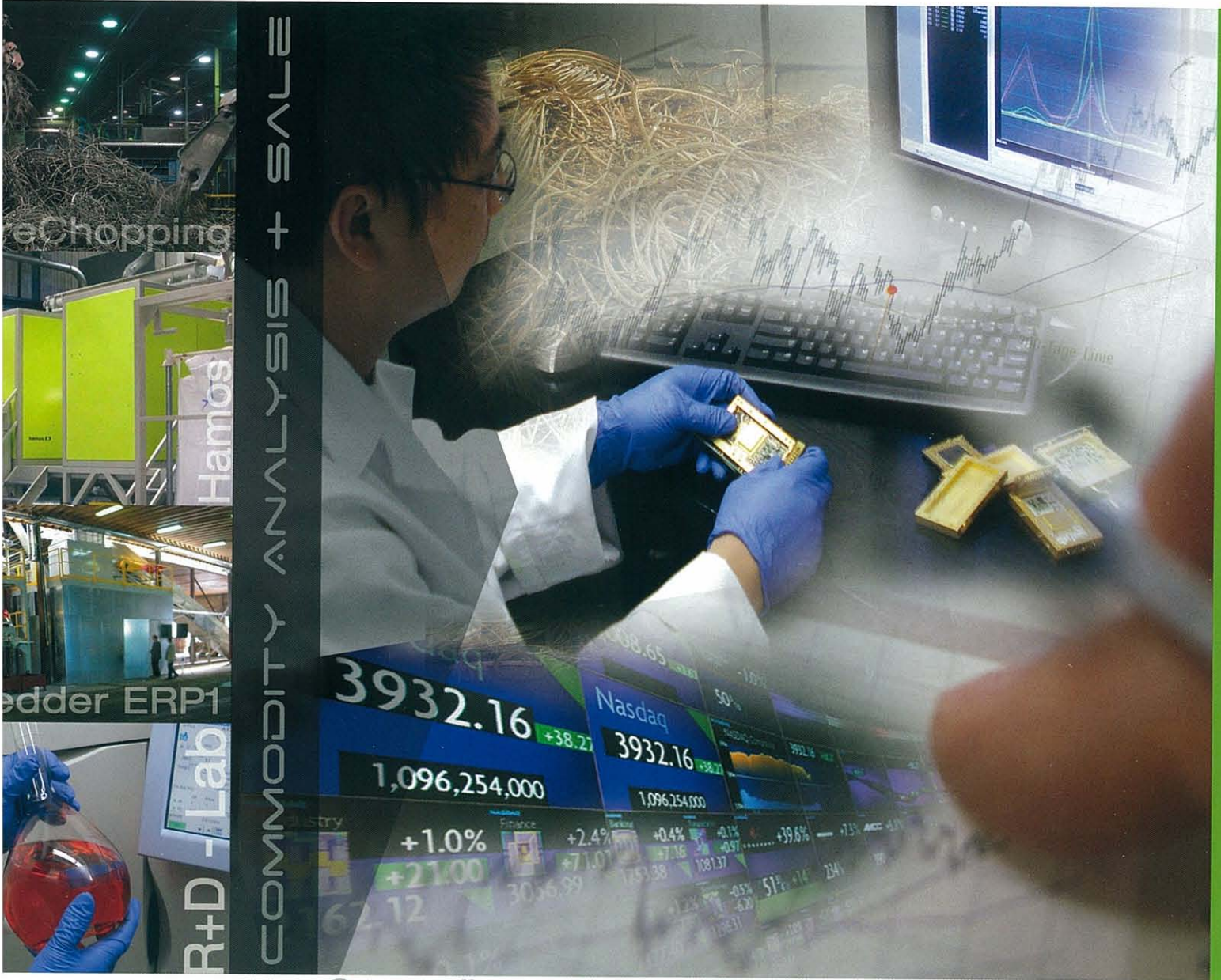
What products are output from the grinding/shredding machines?

“The final products are separated into pure commodities of precious metals, ferrous metals, copper, aluminum, plastic, mixed plastic and metal fractions. Monitors and televisions produce glass, plastic, copper, aluminum and steel. The metals and glass are sold as raw materials and returned to the manufacturing cycle. The mixed plastic fractions are utilized in our Nano Fuel Plant, which produces pure diesel fuel. This fuel will be used to drive the generators creating electricity to run the plant.”



End-of-Life Recycling

- Every incoming load is weighed and documented with scale tickets & bar-coding
- Computer controlled inventory and destruction / recycling process
- Web based customer support for their inventory control and sale of excess and refurbished products
- All processes are ISO approved and controlled
- Largest, most comprehensive state-of-the-art processing facility for e-waste ... globally



Commodity Analysis and Sale

Today's marketplace is fast-paced, dynamic and extremely volatile. Our team of trading professionals offer superior pricing on all types of recyclable commodities. Our representatives can provide our customers with up to the minute quotations based on Comex, LME and other international indices in real time.

Support Programs



To further support our locations in Canada, GEEP has developed a collection network called e-colleX. This is a branded collection system which includes 25 physical locations across Canada and will grow up to 100 within one year as well as expanding into the US in 2009. Physical locations are strategically located across Canada to create convenience for people to be able to recycle e-waste.

Services covered by the collection system include:

- Wire cages strategically located in businesses to collect e-waste
- Reverse logistics to pick up collected products
- Corrugated boxes placed in retail stores across the Country to collect hand held devices.

These collection sites make available convenient collection services for Original Equipment Manufacturers, businesses and individuals.



TAKE BACK
Marketing Solutions

- Exchange Programs
- CashBack
- End-of-Life
- e-Waste Compliance Consulting
- Reverse Logistics Management

What we do:

Promotion Consulting
IT Infrastructure
Project Management
Customer Support
Logistics Services
Clearing Services
Financial Fulfillment
Legal Support
Environmental Advisory
End-of-Life Product Management
Regulation Compliance Consulting





Barrie Metals Inc. - Purchased in 1984 by Alfred Hamsch who continues to serve as President and Chairman. In our 25 years experience, we've transformed from 4 employees and sales less than four hundred thousand annually, into a group of companies employing over 350 dedicated associates with annual sales over \$170 Million.

Our corporate head office and recycling facility is located in Barrie, Ontario, Canada. (a short 40 minute drive north of metropolitan Toronto). We are located along Highway 400 operating a state-of-the-art recycling plant - occupying 572,000 sq. feet on 30 acres of land.

Our core business involves the fast-paced accumulation of both ferrous and non-ferrous materials - our job is to separate all types of metals, through value added processes; identify, sort and segregate; thereby transforming "waste" into "commodities".



Barrie Metals Group of Companies

Supporting our core activities are a range of speciality divisions:



Barrie Metals Inc.



Electric & Electronic Recycling Services



Conversion of Hydrocarbon Based Polymers to Diesel



Retails Metal Products & Industrial Tools



The GEEP Value Proposition

1 What is the Benefit of a Global Footprint ?

- Reduced Logistics Cost
- Report Consolidation
- Single Point of Contact
- Local Solutions for a Global Issue

2 How do we Guarantee global Quality Standards ?

- ISO 9001 and ISO 14001 Certified
- Proprietary Recycling Equipment
- Proprietary Tracking Software



3 How do we Guarantee Peace of Mind and Security ?

- EBAN Disc Sanitization to DOD 5220.22-M and NIST 800-88 Standard
- "Open Audit" Trail to assure Brand Preservation

4 How do we all Benefit from ongoing Research and Development ?

- New solutions to improve Asset Recovery Rates
- Less Environmental Impact with Zero Landfill



geep

Global Electric Electronic Processing

The Global Responsible Alternative

International Headquarters:
220 John Street, Barrie, ON Canada L4N 2L2
1-705-725-1919
Toll Free 1-866-288-8016

www.geepglobal.com



Mixed Sources

Product group from well-managed forests, controlled sources and recycled wood or fiber

www.fsc.org Cert no. SW-COC-002802
© 1996 Forest Stewardship Council



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e-colleX: GEEP Authorized Collection Sites

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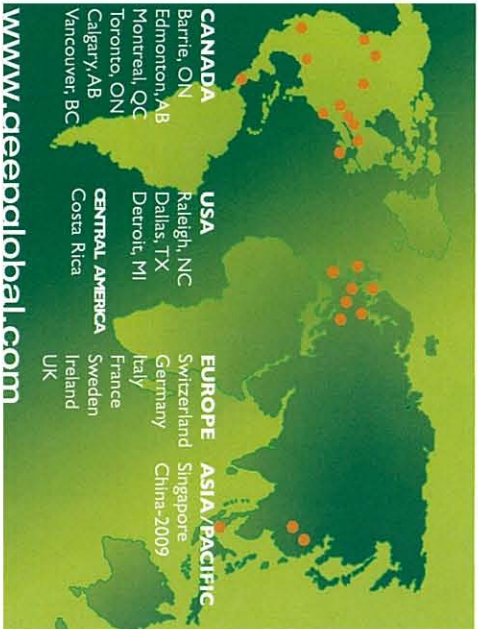
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Global Reach with:

- "End-of-Life" IT Services including asset management
- In-house + On-site Secure Digital Data and Information Destruction with EBAN Software – DoD 5220.22-M Compliant with automated reporting
- Equipment Remarketing and Resale
- Electronics Waste Recycling
- Warehousing services
- Standard processing
- Universal pricing
- Global market organization
- ISO standards
- Global environmental standards
- Downstream audits
- 9 locations currently in North America
- 11 locations in North America and 10 in Europe and Asia by end of 2009

Global Partnerships



www.geepglobal.com

Vision Statement :

"Our in-house processes and operational excellence coupled with genuine concern for the environment and innovative spirit make us leaders and the first choice in the field of electronic recycling and waste diversion"

Mission Statement :

"The mission of GEEP is to work collaboratively with clients to maximize their return on excess and end of life inventory in an environmentally safe manner with a zero landfill objective"

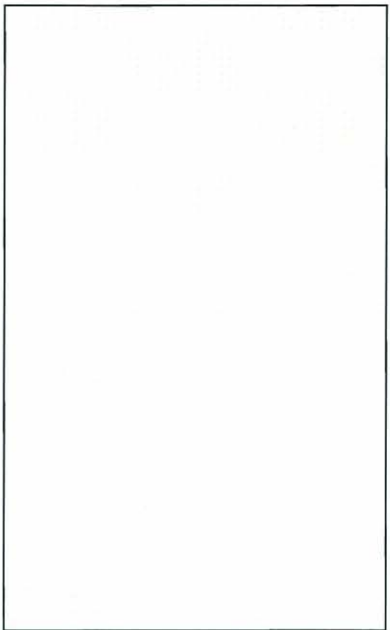


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Your local representative:



Global Electric Electronic Processing



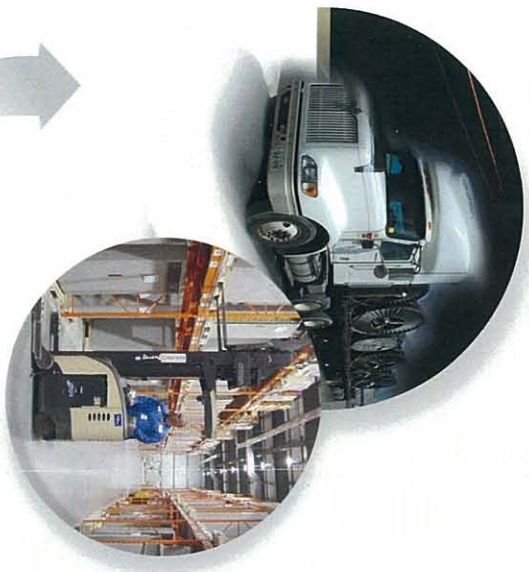
The Responsible Alternative
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Geep's Global Closed Loop Solution

PROPRIETARY SOFTWARE

RECEIVING REVERSE LOGISTICS

Inventory tracking and control



REFURBISHING

DIAGNOSTIC TESTING DATA SANITIZATION

Proprietary disk wiping software



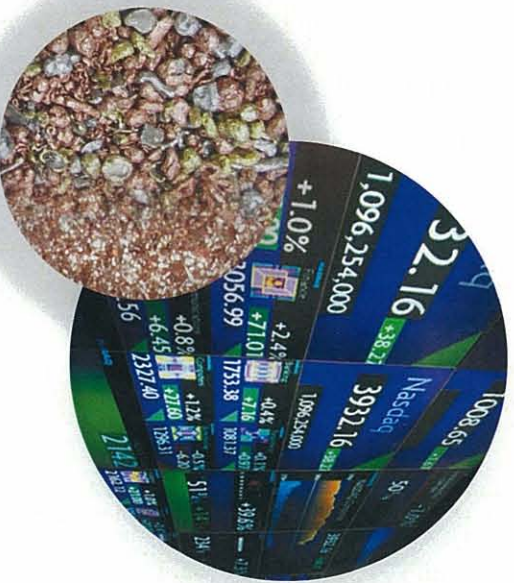
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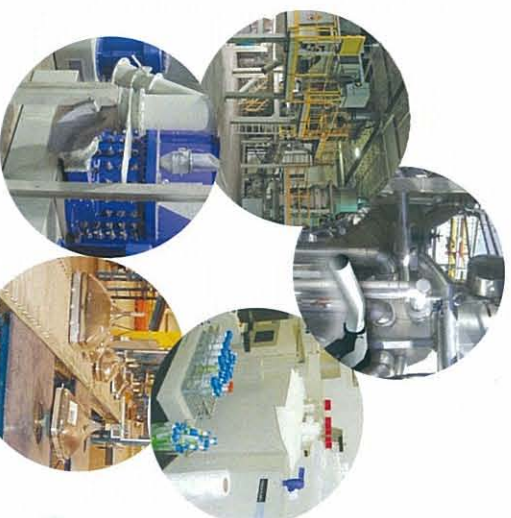
REMARKETING

Reuse thru resale



COMMODITY SALE AND ANALYSIS

Complete downstream audit ability



END OF LIFE RECYCLING

(WASTE TO COMMODITIES)

Using proprietary equipment with zero landfill objective

