

CRT Glass Recycling Survey Results

August 4, 2004
Basel Action Network

The following chart represents the reported results of a first-ever public survey undertaken by the Basel Action Network (BAN) in an effort to encourage more transparency among recyclers and processors of leaded glass from cathode ray tubes or CRTs (TVs and monitors). While the survey raises a number of questions and leaves room for interpretation, it represents an important daylighting of the current practice regarding the most toxic and costly electronic waste management in the US. Because of the environmental and occupational risks and costs involved in handling the leaded glass here in the US, the collapsing US market for manufacturing new CRTs, and the economic incentives to sell US hazardous waste to anyone rather than pay to have it properly handled, non-working CRTs are highly prone to being shipped to developing nations, frequently in violation of existing international laws or norms. CRTs and leaded glass cullet are specifically listed (in Annex VIII) of the Basel Convention as a globally regulated waste. The Basel Convention, under Article 4(5), does not permit Parties to the Convention to trade in hazardous wastes with non-Parties, e.g. the US, Afghanistan, etc. BAN remains concerned that possibly thousands of tons of this regulated waste are exported every year, likely in violation of the laws of importing nations, and moreover being processed in sub-standard operations without adequate infrastructure to safeguard human health and the environment. At the same time there are a number of US companies that are acting responsibly by properly handling CRT glass, and keeping it in the US or in OECD countries.

With the recent announcement of the closure of Technoglas, one of the last CRT manufacturers in the US, the incentive to export may increase. But as it stands now, cullet is illegal to be imported by a Basel Party from the US, unless these importers are members of the Organization for Economic and Cooperative Development (OECD). BAN has concerns regarding the US exporting the last mountains of leaded glass for an obsolete technology, leaving developing countries cleaning up the toxic mess from our former affair with CRTs. This export prolongs and perpetuates the use of CRTs when better display technologies now exist. Recycling, particularly of hazardous waste, is not always preferable if such recycling prolongs dirty technologies. The long-held assumption that glass-to-glass recycling is always environmentally preferable to lead smelting/glass recycling is not necessarily correct.

In order to bring more visibility to this significant hazardous waste problem, BAN sent out a total of 21 letters to various CRT recyclers this past spring, making clear our intention to publicize the results and/or the lack of response (survey letter below). We sought a sample representing a wide range of existing CRT recyclers, and requested the following information:

- 1) The total amount (by weight) of TVs and computers collected in 2003, and
- 2) The total amount of CRT glass (by weight) sent for recycling in the same year.

An optional question was also asked pertaining to the exact destination(s) of the recycled glass, but in order to increase participation in this initial effort, responses were voluntary and not verified. Out of 21 letters sent, a total of 14 responses (or partial responses) were received from those wishing to participate. The 7 companies that did not respond were given a follow-up phone call and offered another opportunity to respond prior to an extended deadline.

This survey is based on the “CRT Glass Test” (http://www.retroworks.com/Good-Point/CRTGlassTest_final.PDF), developed by American Retroworks, which provides a basic formula designed to detect large amounts of leaded glass that are “missing” or unaccounted for. A CRT typically represents 42% of a TV or monitor’s total weight. According to the author of the “Glass Test”, legitimate recycling companies may differ in the percentage of glass they repair or recycle. Some accept only repairable CRTs and TVs, or handle large volumes of cables and mainframes and may have a rate below 25%, while others consolidate CRT glass from recyclers and have rates over 75%. However, “No one can repair all the old TVs and monitors they...receive. Any legitimate recycler can quickly document how much CRT glass they recycle domestically.”

A company that only exports would have a glass recycling rate of 0%, or a token 1% – 2% to provide a domestic alibi. A company with a rate less than 10% might warrant close scrutiny, particularly regarding the export of equipment into the reuse/refurbishment market. The Basel Convention regulates all non-working equipment as a waste; equipment for reuse must be tested as working prior to export in order to ensure that it is not regulated as a waste under international law.

It is important to recognize that, for the purpose of this survey, some recyclers reported collection numbers that only include CRT-containing devices (TVs and monitors), while others reported all electronic waste collected (listed in separate charts). A few still felt the need to keep their numbers confidential. Although clear comparisons are not always possible, this survey provides a window into a formally ‘proprietary’ industry.

The clearest value of this early survey lies not so much in the glass recycling rate, as in a company’s willingness to respond to the survey. A refusal to answer questions is always cause for concern when a vendor is managing a regulated waste. While a complete lack of response does not automatically equate to exporting or dubious practices, it does raise alarm and warrants a demand on the part of the waste generator for full disclosure and as well as verification of final processors of their hazardous waste.

Even with the closure of the largest CRT manufacturer in the US, CRT recyclers need to maintain OECD-only destinations for their leaded glass in order to comply with existing international laws. There is a need for research on the best options available. BAN intends to survey CRT recyclers again next year, this time asking for and verifying exact downstream processors for the leaded glass. We urge more companies to participate in future surveys, and commend those who responded to this one. Comments or questions: swestervelt@ban.org.

Results from Basel Action Network's survey of CRT recyclers

CRT Recyclers Reporting only CRT devices collected in 2003:				
Company Name	Total Tonnage of E-Waste Collected in 2003	Amount of CRT Glass Recycled in 2003	Recycled CRT glass as a percentage of total intake in 2003	Comments
Computer Recyclers of America (CA)	2,291,512 lbs. bare tubes and CRT devices	482,788 lbs.	21 %	CRA was first opened and operating 257 days in 2003. Reported destination: domestic and OECD* glass processors.
Chesapeake Recycling (IN)	997,387 lbs of TVs and monitors	721,585 lbs.	72 %	Reported destinations: include a glass processor that reported foreign markets.
CRT Recycling, Inc. (MA)	9,640,000 lbs of TVs and monitors (out of 29,640,000 lbs. total e-waste)	1,660,000 lbs.	17 % of TVs and monitors collected (6 % of all e-waste collected)	66% of all accepted material is not disassembled, but sent into "reuse". Reported destination: domestic glass processor(s)
Ecoglass Recycling, Inc. (NJ)	Volume "too low to meet minimum specs"	Did not recycle glass in 2003	none	No glass recycled
ElectroniCycle, Inc. (MA)	4,370,000 lbs.	1,336,748 lbs.	31 %	Reported destination: domestic glass processor(s)
HMR Group-Sacramento figures only (CA)	281,000 lbs. of TVs and monitors	83,420 lbs.	29.7 %	"... a surplus trader" Reported destination: domestic glass processor(s)
United Recycling Industries (IL)	3,624,000 lbs of CRT devices (out of 32,672,000 lbs. of collected e-scrap) (for fiscal year ending Oct 31, 2003)	1,357,000 lbs. (for fiscal year ending Oct 31, 2003)	37 %	An additional 12% was remarketed as re-usable product. Reported destination: domestic and OECD* countries for all processors.

- OECD – Organization for Economic and Cooperative Development, representing the 30 most developed nations in the world, and with whom the US has a multilateral treaty for trading in hazardous waste.

CRT Recyclers reporting all e-waste collected in 2003:

Company Name	Total Tonnage of E-Waste Collected in 2003	Amount of CRT Glass Recycled in 2003	Recycled CRT glass as a percentage of total intake in 2003	Comments
American Retroworks, Inc. (VT) dba Good Point Recycling	670,000 lbs. (in 9 months)	172,000 lbs.	26 %	“Remaining glass sold for reuse, recycled locally, or still in inventory.” Reported destination: domestic glass processor(s).
Hesstech, LLC (NJ)	446,030 lbs. Monitors and TVs out of 1,682,367 lbs. of total incoming materials.	303,300 lbs.	68% of all monitors and TVs received. 18% of all incoming materials	All CRT glass is processed domestically.
Metech International (RI)	180,000 lbs of CPU's and monitors	Just over 100,000 lbs. of monitors (not glass) sent for dismantling. No figures provided for weight of glass recycled.	N/A because sent out whole monitors, not glass	“Personal computing is small part of our business.” No TV's accepted. Reported destination: domestic glass processor(s)
Recycle America Alliance (Waste Management) [multi-state]	Not comfortable disclosing specific figures for weight, but provided percentage of recycled glass	Not comfortable disclosing specific figures by weight, but provided percentage of recycled glass	17.8 %	Reported destination: domestic glass processor(s)
Total Reclaim (WA)	4,359,000 lbs. of electronics (rough estimate that 20% by weight are non-CRT devices)	1,275,000 lbs of lead-bearing glass (separated non-leaded glass from leaded glass in '03)	29 % of all electronics	Reported destination: domestic glass processor(s)

Glass Consolidators:

Company Name	Total Tonnage of E-Waste Collected in 2003	Amount of CRT Glass Recycled in 2003	Recycled CRT glass as a percentage of total intake in 2003	Comments
Dlubak Glass (multi-state)	Figure not provided	Approximately 900,000,000 lbs total cullet (not all from CRTs)	N/A	Reported destination: "foreign markets" for some leaded glass cullet; all of it to CRT manufacturers.
Envirocycle, Inc. (PA)	45,158,000 lbs. of monitors, TVs, and glass received	43,102,000 lbs.	95 %	Major processor of glass in preparation for manufacture of new CRTs. Reported destination: domestic markets

CRT Recyclers Who Did Not Respond To Survey

Company Name	Total Tonnage of E-Waste Collected in 2003	Amount of CRT Glass Recycled in 2003	Recycled CRT glass as a percentage of total intake in 2003	Comments
Allied Computer Recyclers (MA)	No response	No response	No response	No response
East Coast Electronic Recycling (MA)	No figures provided	No figures provided	No figures provided	“BAN letter sent to corporate headquarters at Supreme in Lakewood, NJ, and it’s up to them.”
Institutional Recycling Network (NH)	No response	No response	No response	No response
Newtech Recycling (NJ)	No figures provided	No figures provided	No figures provided	“Responding is too much work and proprietary”
Onyx Electronics Recycling (MA)	No response	No response	No response	No response
Supreme Computer Recycling (NJ)	No response	No response	No response	No response
UNICOR (Federal Prison Industries) [multi-state, with WA D.C. headquarters]	No response	No response	No response	No response

Letter

April 8, 2004

Dear CRT Recycler,

The Basel Action Network (www.ban.org) is in the process of identifying which recyclers of CRT glass in the US are willing to be transparent about their volumes of e-waste and the resulting recycled glass. Consumers (waste generators) are demanding to know where their hazardous waste is ending up, and where their liability comes to an end. We encourage waste generators only to do business with those companies who are willing to share their downstream destinations for the hazardous components, and to verify those destinations. Although sharing this information was not a common practice even three years ago, it has now become the norm for those companies that are interested in attracting customers who want their hazardous e-waste managed responsibly and in compliance with international law.

Therefore, we are contacting the most visible US CRT recyclers, including your company, and are publicly asking for the following information:

1. How many pounds of TVs and computers did your company collect in 2003?
2. How many pounds of CRT glass or cullet did your company send for recycling in the US or Canada in 2003 (i.e. to glass-to-glass recycling and/or lead smelting)?
3. Did your company accept other electronic waste in 2003, such as CPUs, peripherals, mainframes, etc.? If so, what components, and what percentages of your total volume did they comprise, roughly?

Please note that we are not asking you to divulge the exact destination(s) of your CRT glass once it leaves your facility, in hopes of getting full participation from all recipients of this letter. However, we will pose an optional question for those who are willing to answer it:

4. **Optional:** What is the exact destination of your leaded glass from non-working CRTs?

Please submit your written responses to the address below by April 30th, 2004. BAN is conducting this survey as a public service, and therefore this is an open letter. Be advised that it is highly possible that BAN will offer the results, including a refusal to respond, to publications or otherwise disburse it into the public domain.

Thank you for your cooperation, and please let us know if you have any questions.

Sincerely,

Phone: 206.652.5555

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