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**Environmental
Site Development
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Stay current: E-jargon

- ▶ **Advanced recovery fee:** paid by buyers of electronics to the state via retailers
- ▶ **Basel Convention:** global pact limiting trans-border hazardous waste traffic
- ▶ **e-waste:** end-of-life electronics—TVs, PCs, cell phones, VCRs, copiers, etc.
- ▶ **E-waste Eddie:** green elephant who promotes e-cycling
- ▶ **Producer responsibility:** manufacturers pay fee direct to state

The State of E-waste

Land and/or incineration ban
CA ME MA MN NH

Land ban pending
AR CT NC OR RI

Producer responsibility (PR)
CT ME MN NC OR TX WA

Producer responsibility proposed
MA NJ NY RI TN WI

Advanced recovery fee (ARF)
CA MA-proposed

Currently inactive PR or ARF bills
HI IL IN KY MI MS
NE NM SC UT VT VA

No legislation
AL AK AZ CO DE FL GA ID IA KS LA
MO MT NV ND OH OK SD WV WY

Other
PA -resolution to explore e-waste program

The MYSTERY SOLVED issue: What enviro-culprit lurks in your office? Where did Tim Bytner disappear to? What happened to cummingsriter.com? And just how is a sample like a snowflake? All revealed, right here! Enjoy.

“^{What’s the}Biggest environmental crisis you never heard of?”

Clues: Stakeholders from EPA to Greenpeace agree it’s a serious problem; the UN (which you’d think is pretty busy) is all over it; Ed Begley Jr. is duly concerned; and Al Gore’s refusal to acknowledge it is infuriating many. Give up? It’s electronic waste, or e-waste—the downside of rapid technology change. On average, a PC is replaced every 3.5 years. Do you know where it goes?

- (a) It’s hidden, er, put in the dumpster; it won’t leach but even if it does, today’s leachate collection systems are da bomb, so no harm done.
- (b) The e-fairy whisks it away to...well, *someplace else*, which turns out to be a room downstairs strewn with CPUs, screens, and the odd holiday decoration.
- (c) It’s donated or sent to a recycler.

Briefs readers wouldn’t stoop to *a* but if you said *b*, brace yourself, Virginia: *there is no e-fairy*. And anyone feeling smug about choosing *c* should read on.

Why is e-waste a problem?

There’s consensus that e-waste *is* a problem but not on what *type*. Is it sheer volume? Worst case e-waste volume estimates amount to only 4% of all municipal waste. A health threat? E-waste contains toxics—nearly 7% of the average PC is heavy metals—and a 2007 EPA report says 44% is landfilled. Still, EPA’s Solid Waste office has gone on record saying e-waste poses little threat to public health in well-run landfills. It’s believed that a portion of stored/donated (45%) and recycled (11%) e-waste is exported, some to legitimate recyclers but some to developing countries for crude processing with no environmental controls. Several sources report related groundwater and health issues; at a minimum, these practices are far less efficient than advanced methods at conserving non-renewable components. Nearly one fourth of that average PC is plastic, plus it has 14% aluminum, 7% copper, and less than 1% gold and silver—yet a ton of PCs yields more gold than 15 tons of ore. EPA’s position is the e-waste issue is not environmental but economic, since U.S. recyclers can’t compete with crude operations that are up to 10 times cheaper. If designing programs that ultimately fund recyclers with fees from electronic manufacturers or purchasers is any indication, 16 states agree (see box).

Current options, potential pitfalls

As the e-waste industry takes shape, here are options for today’s obsolete PCs:

1. **Return.** Free: Toshiba notebooks and Sony at drop-off sites. Apple (if upgrading) and Dell are free to consumers and as yet nothing says companies are excluded. HP and Lenovo take truckloads at \$13 to 34 per item. Dell and Lenovo sort, pack, and erase data for a fee. See makers’ websites or dealtree.com; some pay for items. **Be aware:** only Dell pledges “no export, no landfill.”
2. **Donate.** Find PC-seekers at usedcomputer.com. Goodwill-Pittsburgh indicates they use only Dell-approved recyclers, erase to Department of Defense standards, and accept truckloads. **Be aware:** unusable PCs are recycled or disposed.
3. **Recycle.** Recyclers at eiae.org and nsc.org charge from \$0.05 to \$0.40 per pound. There’s no formal certification but signers of the Pledge of True Stewardship agree not to export, landfill, or use Unicor, a large but controversial federal prison recycling venture. **Be aware:** claiming “compliance” is murky. The U.S. hasn’t signed the Basel Convention so export even for disposal is permitted but most receiving countries *have* signed, or explicitly banned e-waste.
4. **Dispose.** Ban or no, many landfills won’t take e-waste. No EPA e-waste program is expected but existing rules say generators must decide if waste is hazardous. If so, Model City macroencapsulates for \$500 per pallet; EQ microencapsulates for \$110. Little e-waste is incinerated. **Be aware:** cathode ray tube and mercury items often fail the TCLP.

As with any waste, know your e-waste’s final disposition—especially in this early stage of e-waste industry development. It’s the right thing to do, plus it may keep your company’s name from being read off an inventory tag on a 20/20 exposé.

BIRD'S EYE VIEW: As an avalanche starts with a single flake...

In an industry that's now 30-plus years old, some folks may view environmental sampling as a commodity and purchase based on one factor: low price. But proper sampling is vital to getting data that's defensible and reliable enough to base critical decisions on, and sampling errors can lead to non-representative samples and questionable analytical results. A proficient technician knows how to properly sample the range of matrices encountered on environmental projects. False positive results often occur when a technician fails to understand how sampling techniques affect results. When this happens, any initial savings is lost in the cost of additional work triggered by the erroneous results—confirmatory sampling, even a risk assessment or remedial action. And indirect costs like loss of credibility with a regulatory agency or managing media or community relations can be extensive. Based on the number of projects C/R has taken over after other firms who offered an initial "savings" stumbled, there's plenty of evidence that technical proficiency is still a differentiator. In one case, a report stated that appropriate sampling procedures were followed, meaning the results indicated the system discharged contaminated water when in fact the sampler had reversed the influent and effluent labels and nothing was discharged. Considering what's riding on sampling results and the costs—both monetary and in stomach acid—rest assured that C/R recognizes the importance of sampling, and remember: every environmental issue starts with a single sample.



Ken Bird, VP

Quotable

"Fall is my favorite season in Los Angeles... watching the birds change color and fall from the trees."—David Letterman

ON THE MOVE: *Briefs* spoke to C/R scientist/law school grad Tim Bytner as he left to join Babst, Calland, Clements & Zomnir

Briefs: What won't you miss about environmental consulting?

TSB: Being enclosed with snakes. At one SVE system, I get in a four-foot concrete vault with them.

Briefs: What are you most looking forward to at BCCZ?

TSB: Finally getting my legal career started, and in the field I wanted. I feel *very lucky* to go from a premier environmental firm to a premier law firm.

Briefs: Hardest part of four years of work-plus-school?

TSB: Hardly seeing my wife; dinner at 10:30 pm; and no hunting, archery, or vacation.

Briefs: How did you celebrate finishing school?

TSB: I got DIRECTV NFL Sunday Ticket.

Briefs: How will you make the big transition...you know, from jeans to suits?

TSB: I'm buying more suits.

Briefs: What radio station will you listen to on the long morning drive downtown?

TSB: DVE. It's a law in Pittsburgh...or it should be.

Briefs: Do we have to call you Mr. Bytner now?

TSB: (appears to pause to consider) No.

Briefs: Can I have your flat screen monitor when you go?

TSB: Yes.

Briefs: Any parting words?

TSB: I really enjoyed my time here. The people were great—that's what I'll miss the most about Cummings/Riter...the people.

We'll miss you, too, Tim.

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