Workshop Overview

- What do we mean by electronics?
- Electronics recycling in New Hampshire & around the region
- Types of electronics recyclers
- Videos of electronics recycling
- Electronics recyclers - certification & why it matters
- Electronics recyclers serving New Hampshire
- Other opportunities for recycling electronics
- Recycling markets
Learning Objectives

- Familiarity with how the electronics recycling industry works
- Knowing who the electronics recyclers are in New Hampshire
- Understanding the role of certification in the recycling industry
- Getting your questions answered
What are Electronics?

- Computers, televisions, monitors, printers & peripherals
- Cell phones, iPods, tablets & e-readers
  - Including CRTs
New Hampshire Law

- Disposal ban for video displays larger than 4 inches
  - Televisions, computers monitors whether CRT, LCD or plasma screens

- Universal Waste Rule
  - CRTs
  - Batteries - nickel-cadmium, small sealed lead acid, & lithium

- Permitting for electronics recyclers
Why the Disposal Ban

- Disposal capacity
- Hazardous constituents, such as lead
  - CRTs contain 4 - 8 pounds lead each
Permit Requirements

- New Hampshire:

- Federal: None. There are *no federal permit requirements*
  - EPA ID number is a shipping number
Electronics Recycling in the Region

Most New England states have manufacturer take-back laws for consumer electronics
  - What is included & how they work varies by state

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Different Types of Recyclers

- Asset recovery
- Reuse/Repair/Remanufacture
- Demanufacturing
- Shredding
- Broker
Asset Recovery

- Manages surplus property from government & large companies

- May remanufacture, demanufacture, &/or sell units “as is”, or resell components & parts
Reuse/Repair/Remanufacture

- Reuse: Donates or sells whole unit electronics or parts for use for original purpose
- Repair: Repairs electronics for direct resale to consumers
- Remanufacture: Builds whole unit electronics from components or rebuilds electronics for resale to consumers, retailers or brokers
Demanufacture

- Takes electronics apart
  - Resale of components & commodities
  - Preparation for shredding

- May sell workable devices “as is” to brokers, retailers, public

- Nominal repair/remanufacture for resale
Shredding

- Puts whole unit electronics or parts through a shredder
- Shredder breaks up into smaller pieces
- Material separated & sold as commodities for recycling
Broker

- Buys & sells
  - Whole unit electronics
  - Processed materials, such as circuit boards

- Can include specialization in reselling specialized or ‘exotic’ equipment

- Often, material goes overseas
Videos
Electronic Recycling Operations

- Wisconsin
- URT
- Good Point Recycling
So, Electronics Should be Recycled - but by who?

Answer:
- Certified electronic recyclers
What is a Certified Electronics Recycler?

Recycler that has had an assessment done by an independent, 3rd party organization that is qualified & licensed to issue certifications to a specific standard.

- Either R2 or e-Stewards
What does that mean?

A certified electronics recycler is a *facility* that has received a 3rd party audit that verified that it meets the requirements of either the R2 or e-Stewards Standard.
Electronics Recycler Standards Address

- Worker health & safety
  - Employee training, personal protective gear
- Regulatory & permitting compliance
  - Local, national & international
- Data security
- Hazardous waste management
- Insurance, Facility Closure Plans, & Financial Assurances
Why It Is Important To Use A Certified Electronics Recycler

- Only way to ensure not “self-certifying” or making unsubstantiated claims
  - No federal laws or requirements specific to electronics recyclers
- Known set of performance standards that recycler is meeting
- Ensure that practices meet your expectations
- Auditing of recyclers by independent, 3rd party organizations that are qualified & accredited to issue certification to specific standard
- Financial assurances, insurance & closure plans
Electronic Recyclers Serving New Hampshire

- NRRA “approved vendor” list
- e-Stewards & R2
- Out-of-state options
Other Electronics Recycling Options

Manufacturer Take-Back Programs

- Staples
- Best Buy
- Goodwill/Dell Reconnect
- Call2Recycle – cell phones & batteries
  - Lowes, Staples, Radio Shack, Sears, Home Depot, Ace Hardware,
- Wireless carrier stores - such as Verizon, AT&T
- Brand owner mail back programs
Electronics and Appliances Recycling at Best Buy

RECYCLING MADE EASY
We will take all kinds of used tech, no matter where you bought it or how old it is.

Products We Recycle
- TV and Video
- Computers & Tablets
- Cell Phones & Radios
- Appliances
- Ink & Toner
- Rechargeable Batteries
- Audio
- Home
- Music & Movies
- Video Games & Gadgets
- Cameras & Camcorders
- Car Audio, Video & GPS

Additional Resources
- Best Buy Recycling Standards
- Recycling Program FAQs
- Recycling for Businesses and Organizations with RecycleNation
Recycling Markets for Electronics

- Plastic
- Metals
- Circuit Boards
- CRT glass
- Other glass
- Batteries
- Hazardous components
Plastic

- Plastic used in electronics is valuable and recyclable
  - Demanufactured into large pieces - such as casing
  - Ground up as part of shredding process

- Fate
  - Reused in electronics
  - Burned for energy
Metals

- Aluminum, copper, precious metals, rare earths

- Fate
  - Recovered & reused
Circuit Boards

- Low grade & high grade
- Fate
  - Reused as is
  - Repaired & reused
  - Smelting for metals
CRT Glass

- Lead smelters
- Metal recovery - copper
- Glass-to-glass recycling
- Reused or resold
- Exported
Other Glass

- Panel glass from CRTs
- Glass from other types of monitors
- Fate
  - Asphalt, abrasives, industrial applications
Batteries

- Reused
- Recycled
  - Rechargeable
Hazardous Materials

- Mercury containing lamps
- Batteries
- Toner cartridges
See you at the next training - best management practices for collecting electronics for recycling

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