



Study of Electronics Recycling in North Carolina

April 13, 2016

Department of Environmental Quality



Study of Electronics Recycling in NC



- Session Law 2015-286 required the Department to study and report on the electronics law and to address a number of specific issues:
 1. The changing waste stream (to include the transition from cathode ray tubes to flat screen TVs)
 2. Current status of NC's recycling system
 3. Opportunities for more efficient and effective recycling
 4. Additional items the Department deems relevant

History

- Session Law 2010-67 Part 2H *Discarded Computer Equipment and Television Management* of Article 9 *Solid Waste Management*
- “In order to ensure that end-of-life computer equipment and televisions are responsibly recycled, to promote conservation, and to protect public health and the environment, a comprehensive and convenient system for recycling and reuse of certain electronic equipment should be established on the basis of shared responsibility among manufacturers, retailers, consumers, and the State.”
130A-309.130 (10)



Manufacturers Responsibilities GS 130A-309.134 & .135

- Computer Equipment Manufacturers
 - Applies to manufacturers of personal or home business use: computers, monitors, video displays, printers, scanners, printer-scanner-fax combos
 - Registration with DEQ
 - Recycling plans at Level I, Level II or Level III
 - Fee of \$15,000/year, \$7,500/year or \$2,500/year
 - Reporting of weight collected and recycled or reused during the fiscal year
- Television Manufacturers
 - Registration with DEQ
 - Fee of \$2,500/year
 - Required to collect their market share (prior years sales in NC)
 - Reporting of weight collected and recycled or reused during the fiscal year



Retailer Responsibilities GS 130A-309.136

- July 1, 2011 - Retailers may not sell electronics made by manufacturers who are not in compliance with law



State or Gov't Responsibilities GS 130A-309.138

- DEQ Register Manufacturers and Collection of Fees
- Determine Eligibility of Local Governments' Recycling Programs (R2 or eSteward)
- Distribute Funds to Eligible Governments
- Calculate Market Share of Recycling Requirement for TV Manufacturers
- No state or gov't agency... shall purchase/contract with manufacturer not in compliance



Consumer Responsibilities GS 130A-309.10(f)(14)and(15)

- Local Governments collected consumers' electronics during the past six fiscal years with:
 - Fees collected by DEQ from television and computer equipment manufacturers - \$4,087,500 (Average \$681,250/year)
 - Fees sent by DEQ to qualified local governments - \$3,710,496 (Average \$618,416/year)
 - Local Governments received fees this year – 80 counties, 2 municipalities



Electronics Recycling in NC

- 90,000 tons of electronics recycled since 2010
- Local and manufacturer programs collected about 19,000 tons of material last year (0.2% of the waste stream)



TVs' collection and recycling paid by:

	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Local Gov't	NA	63%	75%	84%	79%	78%
Manufacturers	NA	37%	25%	16%	21%	22%

Commodity market conditions have begun to negatively affect the balance of the electronics producer responsibility program in North Carolina, and in particular concerning the costs of television recycling.



Recycling costs

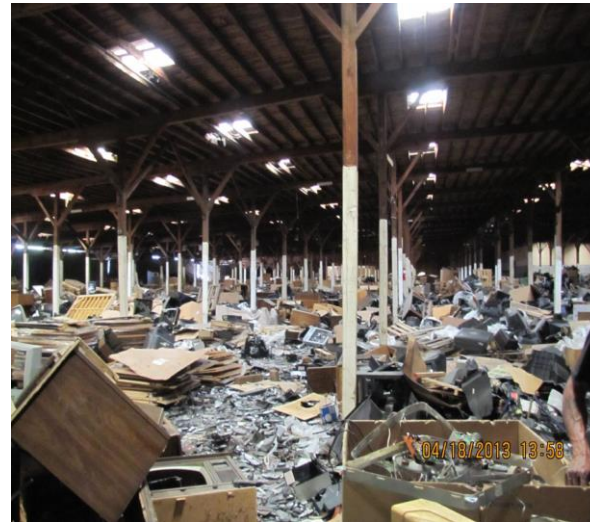
Per Pound Cost Bid Summary 2016 State Electronics Contract

<u>Commodity</u>	<u>Range of Cost/Pound</u>	<u>Average</u>
CRT Televisions	-\$.30 to -\$.44	(\$0.36)
Flat Panel Televisions	-\$.15 to -\$.35	(\$0.24)
CRT Monitors	-\$.25 to -\$.35	(\$0.31)
Flat Panel Monitors	-\$.15 to -\$.28	(\$0.19)
Desktop computers	+\$0 to +\$.14	\$0.08
Laptop computers	+\$.05 to +\$.60	\$0.30
Printers/Scanners/Copiers	-\$.05 to -\$.25	(\$0.14)
Consumer electronics	-\$.05 to -\$.25	(\$0.15)
Tablets	-\$.20 to +\$.15	(\$0.01)
Cell phones	\$0.00 to \$2.50	\$0.96



CRT Markets and Uses

- Markets are available to absorb CRTs collected in North Carolina (at a cost)
 - Lead smelters.
 - De-leading furnace
 - Industrial materials for products such as tiles
- CRT recycling markets are “charging” not “paying” markets, similar to tires
- The changing market has led to greater difficulty in recycling electronics
- Processing facilities and markets also exist for flat panel TVs and monitors (at a cost)



Recommendations

- The General Assembly should consider legislation to repeal Part 2H Discarded Computer Equipment and Television Management of GS Article 9 and to repeal GS 130A-309.10 (14) and (15) based on:
 - EPA's acknowledgement that electronics can be safely disposed of in municipal solid waste landfills
 - electronics recycling is currently not cost effective
 - electronic wastes constitute such a small percentage (0.2%) of the annual solid waste stream.
- DEQ review of the status of electronics recycling infrastructure and markets could be conducted in the future. If electronics recycling is found to be less cost-prohibitive in the future, recommendations for a renewed state-wide electronics recycling program could be considered.

Questions?

