

# Cell Phone Recycling in Virginia

Virginia Department of Environmental Quality

Prepared for the Senate Agriculture, Conservation and  
Natural Resources Committee

November 1, 2005

## Executive Summary

During the 2004 Session of the Virginia General Assembly, SB1317 was introduced which would require retailers of cell phones and other wireless devices to have in place by July 1, 2007, a system of acceptance and collection of used cell phones and other used wireless devices for reuse, recycling, or proper disposal. The Senate Committee on Agriculture, Conservation and Natural Resources tabled SB1317 and requested the Virginia Department of Environmental Quality (DEQ) to study the issue of cell phone recycling and other used wireless products. DEQ undertook a review of the Commonwealth's existing electronics recycling programs and the handling of cell phones, pagers and similar units. DEQ also surveyed other states on their electronics recycling programs.

California is the only state to date that has passed legislation to require cell phone recycling, while Washington, D.C., has set up a voluntary donation/recycling program with a local non-profit organization. Most states include the collection of cell phones in their electronic waste recycling events and provide information to residents on opportunities for recycling their cell phones, such as retailer take-back programs, donation programs, and fund raising programs. In Virginia, some local governments and public service authorities operate electronics recycling programs that accept cell phones and similar wireless units in their collections. Cell phones are also collected through retailers and by organizations that provide reuse options for the phones. Information on cell phone recycling opportunities in Virginia is available from DEQ's website at: <http://www.deq.virginia.gov/ecycling>.

DEQ has been working with EPA and the Electronic Industries Alliance (EIA) under its Consumer Education Initiative on electronics recycling issues. The Electronic Industries Alliance (EIA) currently lists 26 specific programs available through which cell phones can be recycled. The development of the cell phone recovery infrastructure has been self-initiating and easy to access at the state and national level. Although cell phones will continue to be discussed in terms of overall electronics recycling initiatives, it appears that increasing awareness the availability of cell phone recycling options could increase the amount of cell phones collected for recycling.

DEQ will continue to publicize the availability of cell phone recycling programs and work with EPA and national electronics organizations to strengthen the recycling infrastructure and recycling options for the Commonwealth. Information on electronics and computer recycling options is available on DEQ's website at <http://www.deq.virginia.gov/ecycling>.

## **Introduction**

During the 2004 Session of the Virginia General Assembly, SB1317 was introduced which would require retailers of cell phones and other wireless devices to have in place by July 1, 2007, a system of acceptance and collection of used cell phones and other used wireless devices products for reuse, recycling, or proper disposal. This legislation was tabled with the recommendation that the Department of Environmental Quality (DEQ) study the issues surrounding the recycling of cell phones and other wireless devices. The Senate Committee on Agriculture, Conservation and Natural Resources requested DEQ to examine:

- The wireless industry's current recycling efforts in Virginia and the level of financial commitment to recycling;
- The percentage of the waste stream in Virginia comprised of cell phones and other wireless devices;
- The cost effectiveness of cell phones and other wireless product recycling;
- Financial incentives or changes in state laws needed to effectively recycle cell phones and other wireless products;
- Cell phone recycling programs and laws in other states, and the results of those programs;

The above topics were researched during the summer of 2005 and this report provides the requested information to the committee. Throughout this report, the term "recycled" includes cell phones that are reused or recycled.

## **Cell Phone Recycling Opportunities in Virginia**

DEQ's Recycling and Litter Prevention Program provides information to localities and citizens on the availability of recycling opportunities, and promotes environmental awareness through its recycling and litter prevention programs. These programs maintains and provide information concerning opportunities for recycling cell phones and other recyclable materials on their website for use by local recycling coordinators, industry, environmental groups and the general public. Information and resources on recycling can be accessed through the following webpage: <http://www.deq.virginia.gov/recycle/homepage.html> The Recycling and Litter Prevention program also uses newsletters, presentations, and their recycling rate program compliance assistance efforts to encourage recycling of cell phones and other electronics.

Currently there are 13 opportunities for cell phone recycling listed on DEQ's website at: <http://www.deq.virginia.gov/ecycling/links.html> . These opportunities include retailer collection programs, donation programs, and fundraising programs. More detailed information can be accessed from the individual take-back programs. This listing is updated periodically as more opportunities for cell phone recycling become available.

As part of this study, local government recycling coordinators were contacted to obtain information on cell phone opportunities available to citizens throughout the Commonwealth. Forty-four (44) Virginia localities responded to the survey and thirty-

one (31) indicated cell phone recycling was occurring in their locality. Local cell phone recycling includes local electronics collection events, special citizen assistance efforts, or retailer/industry programs. Specific information on cell phone recycling opportunities identified as available in specific communities is listed in Table 1. Examples of collections programs available in local communities include: recycling programs by retailers such as Best Buy and Staples; Domestic Abuse, and Victim Witness programs where donated phones are programmed as 911 emergency call units; fundraising programs for groups such as Humane Societies where funds are received for cell phone collected; and programs operated by industry groups such as the Wireless Foundation and the Rechargeable Battery Recycling Corporation. The survey was not able to quantify the total number of cell phones collected through such programs statewide, but identified the availability of these recycling opportunities within communities in the Commonwealth.

State agency cell phones that are no longer needed are managed by the Department of General Services as surplus property. Surplus property is re-sold and information on the amount of cell phones managed through this process is or the final destination is not available. The final destination of cell phones purchased through the state surplus program managed through the Department of General Services is unknown. Further investigation of this issue would be required to determine the benefits of the Commonwealth utilizing cell phone recycling programs in lieu of selling used cell phones as surplus property.

In October 2005, major announcements were made informing Virginians that two new electronics recyclers would begin operating in Virginia. These companies should increase the capacity for managing the amount of electronic waste collected in Virginia, and provide more opportunities for Virginians to recycle their used electronics.

### **Cell Phone recycling opportunities in other states**

As part of this study seventeen (17) other states and Washington, D.C. were surveyed, to identify statewide cell phone recycling programs. California is the only state to date that has passed legislation to require cell phone recycling, while Washington, D.C., has set up a voluntary donation/recycling program with a local non-profit organization. California's legislation was passed in 2004, however the requirement for all retailers to have a system in place for accepting cell phones for recycling does not take effect until July 1, 2006. California's reporting requirements on the amount of cell phones collected take effect July 1, 2007, so information on the progress this collection requirement has had will not be available until 2007. Washington, D.C.'s voluntary collection program is managed by a non-governmental organization (Secure-the-Call) and collection events occur approximately four times per year. Both California's and Washington, D.C.'s programs are operated without local government or state funding. Table 2 compares California's and Washington, D.C.'s cell phone recycling programs.

Many states indicated they did not have state sponsored recycling programs specifically for cell phones, however states indicated cell phones are collected through

locality sponsored electronic waste collection events. Electronic waste collection events are currently conducted by 19 localities in Virginia. Other states indicated they encouraged the recycling of cell phones through public awareness campaigns and other outreach mechanisms. Table 3 compares electronics recycling programs in the states surveyed.

### **EPA's Cell Phone recycling approach**

Currently EPA is working through state electronic recycling contacts and industry representatives to identify methods to effectively collect cell phones for recycling. Industry has responded the need to manage used cell phones through the development of cell phone donation programs and through identifying recycling firms for cell phones on their website. EPA estimates indicate that 1-2% of waste streams are comprised of electronic waste, and a small portion of that amount would be cell comprised of cell phones. EPA hosted a meeting to further explore opportunities to improve cell phone recycling in October 2005 as part of a national recycling conference. During this meeting stakeholders evaluated the current status of the cell phone recycling infrastructure. EPA's approach to finding a solution to the management of used cell phones mirrors EPA's other recycling conservation challenge programs by including stakeholders in the search for a method to effectively capture this material for reuse and recycling. Improving outreach and education efforts is seen as an immediate need to improve the capture of cell phones for reuse and recycling.

### **Cell Phone recycling industry**

Cell phones are unique in electronics recycling because the collection infrastructure for cell phones is preexisting, and in many cases the collection of these phones is driven by market forces. One interesting result of our research was the number of cell phone recovery/reuse programs in place in the United States. The Electronic Industries Alliance (EIA) under its Consumer Education Initiative lists 26 specific programs available through which cell phones can be recycled. Not only are there programs that solicit old cell phones, in many cases, the programs promote such collection options as a revenue generator for the collecting entity. On-line searches located programs that collect old cell phones for charitable purposes such as domestic violence programs and emergency call units. Other programs offer incentives such as coupons or certificates redeemable at local retailers. One program provides mailers for citizens to use to send their phone for recycling. The on-line options are readily available and often free to the generator or donor. Table 4 provides some information on the amount of cell phones some companies in the cell phone recycling industry have reported recycling. DEQ maintains a listing of cell phone recycling opportunities as well as electronics waste recycling options on its website at <http://www.deq.virginia.gov/eycycling>.

## **Conclusion**

DEQ has been working with EPA and the EIA on electronics recycling issues, including cell phone recycling programs. The cell phone recovery infrastructure development has been self-initiating and easy to access at the state and national level.

The two new electronics recyclers locating operations in Virginia are examples of the growing focus to on managing electronics. These companies should increase the capacity for managing the amount of electronic waste collected in Virginia, and provide more opportunities for Virginians to recycle their used electronics. As more localities implement scheduled electronics collection events, the opportunities to recycle cell phones and related electronics will grow.

As this time, since there are recycling opportunities in the Commonwealth that already offer economic incentives for citizens to recycle cell phones, it does not appear that any economic incentives are necessary from the Commonwealth to promote cell phone recycling. Increased public awareness of the availability of cell phone recycling would potentially improve participation in recycling programs. DEQ will continue to publicize the availability of cell phone recycling programs and work with EPA and national electronics organizations to strengthen the recycling infrastructure and recycling options for the Commonwealth.

Table 1 Responses from local recycling coordinators on availability of cell phone recycling programs

<b>Locality</b>	<b>Available Resources- in the community or nationally for recycling cell phones</b>
Amherst Co.	Best Buys in Lynchburg, wireless service providers
Arlington Co.	Commonwealth Attorney's Office/Courthouse, TACT Thrift Store, Retailers (CG/RC), Charities
Bath Co.	none specified in survey response
Bedford	Bedford Domestic Violence program
Bluefield	effort underway to get Wal Mart involved
Buckingham Co.	none specified in survey response
Charlotte Co.	Domestic Violence Shelter
Clarke Co.	Private
Clean Valley	Retailers (Staples)/Charities
CVWMA	rechargeable battery collection sites, electronics collection, service providers, Sims, charitable orgs.
Fauquier Co.	Local Electronics Recycling Events
Fredericksburg	Rappahannock Regional Landfill, Residential Recycling & Disposal
Highland Co.	none specified in survey response
Independence	none specified in survey response
Jackson River	none specified in survey response
Lancaster Co.	none specified in survey response
Lexington	Service providers
Loudoun Co.	Biannual County Electronics Recycling Events, Loudoun Co. Victim Witness Program collection sites, Wireless Foundation's "Call to Protect" site
Manassas (City)	RBRC, electronics recycling events, retailer take-backs (Staples), service providers (Cingular)
Martinsville (Henry Co.)	Schools
Mathews Co.	Collective Good
Montgomery Regional	Program/Service Providers
Nelson Co.	Staffed Collection Site, Community Center collection box
New River Resource Authority	Service providers, retailer take-backs, prospective e-waste program (2 e-waste events in past 2 years)
Newport News	Electronics recycler, retailers (Office Depot), service providers (Verizon), online companies (Phone Raisers, TX)
Northampton Co.	Private
Orange Co.	Request by Humane Society for containers @ Collection Centers/Landfill

Powhatan Co.	Schools
Prince George Co.	none specified in survey response
Prince William Co.	Retailers
Rappahannock Co.	2 vendors
Richmond Clean City Commission	Police Dept. (for neighborhood watch), YWCA (battered women's program)
Richmond Co.	none specified in survey response
Rivanna	Retailers (Staples), Service Providers
Rockingham Co.	Annual electronics recycling event
Russell Co.	Police Dept., retailers, CPRWMA event (Spring 2005)
Spotsylvania	In-house government center, Sheriff's Office (and local agencies accepting for Domestic Abuse programs)
Stafford Co./Fredericksburg	Collected items go to the Sheriff's office, under contract with Motorola
Staunton	none specified in survey response
Town of Dillwyn	none specified in survey response
Virginia Peninsula	Local Charities/Retailers
Wise Co.	none specified in survey response
Wythe Co.	Wythe/Bland Joint Public Service Authority Transfer Station
York Co.	none specified in survey response

Table 2 States with recycling programs specifically targeted at cell phones

	<b>Recycling Program for Cell Phones</b>	<b>How Initiated</b>	<b>Voluntary or Mandatory</b>	<b>Marketing/Education Efforts</b>
<b>California</b>	YES	State Legislation - California Cell Phone Recycling Act (Assembly Bill No. 2901)	Mandatory	Sole responsibility of cell phone retailers (variety of acceptable efforts listed in California Cell Phone Recycling Act)
<b>District of Columbia</b>	YES, informal	Grew out of Metropolitan Police Precinct partnership with Secure-The-Call	Voluntary	Community booths, neighborhood commissioners receive info. on collection, ads run 2-3 weeks prior to e-waste collection events

Table 3 Comparison of state electronic waste programs

	Existing E-Waste Recycling Programs	Does E-Waste Program Include Cell Phones?	How Program Initiated	Voluntary or Mandatory	Special Marketing/ Education Efforts	State Sponsored E-Waste Events (Incl. Cell Phones)	Industry Sponsored Events	Opportunities for Recycling Cell Phones	Guidance for Management of State Equipment
<b>Alabama</b>	NO, education efforts underway	N/A	N/A	N/A	YES, developing brochure to distribute at events (American Recycling Day, Earth Day, schools, fair booths)	NO	YES, Dell grant in Mobile	Scattered local collection events	YES, computers go to Surplus or donated to schools, non-profits
<b>Delaware</b>	YES	YES	EPA eCycling initiative in Region 3 states ('01)	Voluntary	YES, radio/newspaper ads, color brochures, Earth Day events	YES, at DSWA locations	NO	DSWA local recycling centers	YES, participation in DSWA on agency-by-agency basis
<b>Florida</b>	YES, informal (grants expired)	YES (depending on locality)	\$2 million state revenue grant (approved by state legislature)	Voluntary	YES, website information, direction to Earth911 to locate collection sites (local advertisements)	NO	YES, RBRC	Retailer take-backs, service providers, electronics recyclers (ReCellular - CellForCash.com)	YES, all agency electronics recycled through private contract

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<b>Georgia</b>	NO, advisory statements issued to governor/legislature	N/A	N/A	N/A	N/A	NO	NO	Retailer take-backs (office supply stores incl.), Collective Good	YES, only on computers (through Surplus)
<b>Kentucky</b>	NO, workshops in progress	N/A	N/A	N/A	N/A	NO	NO	Retailer take-backs	NO, some agencies collect personal cell phones, agency phones go to Surplus
<b>Maine</b>	YES, as incl. in Universal-Waste	NO	N/A	N/A	N/A	NO	NO	NONE	NO
<b>Maryland</b>	YES	YES	EPA eCycling initiative in Region 3 states ('01), \$79,000 state contract w/ recyclers	Voluntary	YES, website information	YES, through recyclers under contract	NO	Retailer take-back systems (scattered)	YES, those not redistributed by Dept. of General Services donated to schools, police

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<b>Michigan</b>	YES	YES	Community P2 Grant Program (waste reduction of school chemicals)	Voluntary	YES, website information (e-waste), industry publications	NO	YES, HP & Office Depot ('04), RBRC	NONE	YES, all agency electronics recycled through contract between Surplus and Unicorp.
<b>Mississippi</b>	NO, previous industry/local collections, referral to retailers/recyclers	N/A	N/A	N/A	YES, website directory of retailer take-backs/ electronics recyclers, RBRC	NO	YES, HP & Office Depot ('04), RBRC	Retailer take-backs, service providers, electronics recyclers, scattered local collection events	YES, cell phone collection in office (Cell Phones for Cash, RBRC)
<b>North Carolina</b>	YES, informal	YES	2 state grant cycles: electronics recyclers & local gov'ts (competitive, not dedicated)	Voluntary	YES, website directory of recycling opportunities, both local and on the internet	NO	YES, in recent years by Dell (UNC Charlotte, Winston-Salem), Verizon (NC State)	Retailer take-backs, scattered local collection events	YES, state term contract w/ Computel, Envirocycle

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<b>Oregon</b>	NO, education efforts underway	N/A	N/A	N/A	YES, website includes e-waste fact sheet, lists local demanufacturing/ refurbishing facilities	NO	YES, Dell	Retailer take-backs, local demanufacturing/ refurbishing facilities	NO, all agency electronics managed by Dept. of Admin. Services
<b>Pennsylvania</b>	YES, informal	YES	EPA eCycling initiative in Region 3 states ('01)	Voluntary	NO	NO	NO	NONE	YES, Recycling Office donates or recycles all agency cell phones
<b>South Carolina</b>	YES	YES	EPA eCycling initiative in Region 3 states ('01), Keep America Beautiful funding (cell phones)	Voluntary	YES, revising 2 fact sheets on e-waste recycling, website lists recycling opportunities	YES, Keep America Beautiful collections	YES, RBRC	Retailer take-backs, school collections, various organizations	YES, all broken agency electronics are donated
<b>Tennessee</b>	NO, only through HHW collections	N/A	N/A	N/A		NO, only HHW collections	YES, Dell & Staples (Knoxville)	NONE	YES, cell phone collections benefit women's shelters

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<b>Texas</b>	YES	YES	No statutory basis, grew out of Hazardous Waste program	Voluntary	YES, website database of recycling opportunities; cell phone/e-waste recycling topic of public appearances, annual environmental conference	NO, only through Hazardous Waste collections	YES, Dell	Retailer take-backs, service providers, electronics recyclers	NO
<b>Virginia</b>	YES, informal	YES (depending on locality)	EPA eCycling initiative in Region 3 states ('01)	Voluntary	YES, website information (includes list of local and internet recycling opportunities), outreach, EWMAC working paper available to localities	NO	YES, HP & Office Depot ('04), Dell grant for one-time collection (Cumberland Plateau) ('05)	Retailer take-backs, service providers, electronics recyclers, local collection events/permanent collection sites	NO, though agency electronics may be sold to recyclers at public auction
<b>West Virginia</b>	YES, informal	YES (depending on locality)	EPA eCycling initiative in Region 3 states ('01)	Voluntary	YES, website information (includes a list of local collections)	NO	NO	Goodwill/Salvation Army collections, Envirocycle facility to open Oct.'05	NO, all agency electronics managed by Surplus

Table 4 Information on the of amount of cell phones recycled by specified industry representatives

	<b>Collective Good</b>	<b>RIPMobile</b>	<b>ReCellular, Inc. (WirelessRecycling.com, WirelessFoundation.org)</b>	<b>American Cellular Donation Organization</b>	<b>GRC Wireless Recycling</b>	<b>RMS Communications (CellForCash.com)</b>
<b>Target Market</b>	Individuals, businesses	Individuals	Service providers, retailers, manufacturers, businesses, non-profits	Individuals, charitable fundraisers	Individuals, service providers, retailers, manufacturers, businesses, non-profits	Individuals, fundraisers
<b>Amount Paid to Customer</b>	N/A	\$2-\$100 in credit per phone	\$3 min. per phone to collectors (SP's/retailers)	N/A	\$1 per pound (30 lb. min.) / \$0.25-\$40 per phone (avg. \$3-4)	\$5-\$200 per phone (avg. \$15)
<b>Amount Donated</b>	\$1-\$15 per phone	N/A	Varies per organization	\$0.50-\$50 per phone	up to 30 dollars per phone \$1.3 million/('02-'04) avg. \$100,000/mo. ('04) \$3 million est. ('05) *	N/A
<b># of Phones Collected/Year</b>	12,000 ('01), 5- 7,000/mo. ('03)	Not specified	3 million ('04)	\$15,000/9 mo.('05)	75,000-80,000/mo. ('04)	50,000/mo. ('04) (website: 10,000- 15,000/mo.)