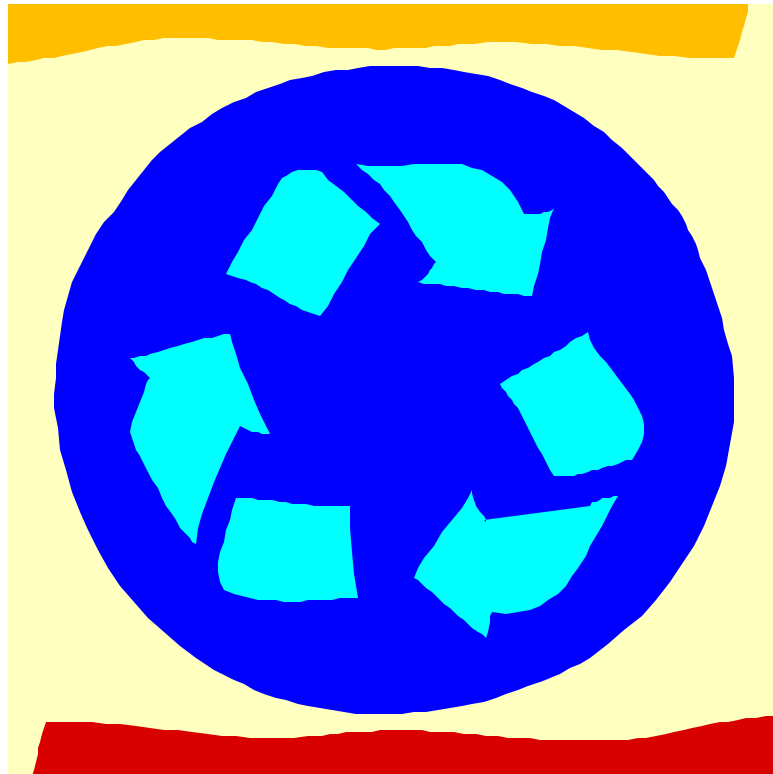


VIRGINIA'S MANUAL ON THE BUSINESS OF RECYCLING



**Virginia Department of Environmental Quality
Division of Environmental Enhancement
P.O. Box 1105
Richmond, VA 23218**

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THE BUSINESS OF RECYCLING IN VIRGINIA

I. Introduction

Virginians are becoming increasingly mindful of the need to take better care of the environment and our natural resources. Each facet of life is being scrutinized to determine how we can better preserve the environment, while reducing waste and pollution at home and in the workplace. Virginia's businesses are being asked to do their part in this effort by reducing wastes, controlling processes, and modifying operations in order to reduce the potential for pollution, thus becoming a steward of the environment.

One recognized way to reclaim natural resources and to minimize waste is to recycle. Recycling reduces the amount of material that needs to be land filled or burned, provides feedstock for those industries that can process the collected materials and make new products, and can reduce the energy used in making those products from virgin materials. In saving energy, it is possible that recycling can also reduce pollution. Industries that use processed recyclables in their manufacturing processes can reduce their use of virgin materials, thereby conserving natural resources. Recycling makes for good corporate citizenship through environmental stewardship, providing jobs, and it helping the community to reach its recycling goals.

In 1989, the Virginia General Assembly saw the need to encourage recycling in the Commonwealth as a means of reducing solid waste. Legislation was passed that required all local governments to submit to the Department of Waste Management (now the Department of Environmental Quality) a solid waste management plan that specified how the area would meet a mandated 25% recycling rate by December 31, 1995. Businesses and industry in each area were asked to submit to the local government information on recycling and waste diversion programs within their operations that could be included in the area's recycling calculations and report.

In 2006, the Virginia General Assembly approved a two-tiered system to provide relief to jurisdictions that were not meeting the 25% recycling mandate, for CY 2006, by encouraging them to strive to reach and exceed a lower rate. The locality must meet a 15% recycling mandate if population density is fewer than 100 people per square mile or if the unemployment rate is at least 50% greater than the state average. Localities or regional authorities (known as Solid Waste Planning Units or SWPUs) can also earn up to an additional five credits for the following:

- ✓ A credit of one ton for each ton of recycling residue generated in Virginia and deposited in a landfill permitted under subsection M of § 10.1-1408.1;

- ✓ A credit of two percentage points of the minimum recycling rate mandated for the solid waste planning unit for a source reduction program that is implemented with the solid waste planning unit. The existence and operation of such a program shall be certified by the solid waste planning unit;
- ✓ A credit of one ton for each ton of any solid waste material that is reused; and
- ✓ A credit of one ton for each ton of any non-municipal solid waste material that is recycled.

From information received for CY 2005, Virginia localities are recycling at an estimated 32% rate.

Industry, businesses, government agencies and citizens can support recycling by creating a market for collected and processed recyclables through the purchase of products and materials with recycled content. This process is called “closing the loop”, or “buying recycled”. By choosing to use recyclable materials in manufacturing or to commit to the purchase of recycled content products creates a demand for those materials which are diverted from the waste stream through recycling. The ideal is a product that contains recycled content and is itself recyclable, maximizing material utilization and reducing the drain on the natural materials normally used in the manufacture of the product.

The role of business and industry in helping Virginia to meet and exceed its mandated recycling goal cannot be overstated. This manual is designed to provide businesses with more information about planning and implementation activities that Virginia has been undertaking to address the waste problem and to protect or environment and natural resources. It includes information on Virginia laws mandating recycling, local government responsibilities, business responsibilities, discussions on how to set up recycling programs, areas to consider when establishing or operating a recycling/reuse oriented business in Virginia and resources for seeking additional information on recycling.

II. Steps to Establishing a Recycling Program for a Business

A. **Analyze the Trash** – Identify what is in the waste stream that can be targeted for recycling.

B. **Target materials for recycling** – Identify what should be collected for recycling. This step includes communicating with your trash/recycling collector to determine the local market.

Some Questions to ask the collector include:

- ✓ What are the potential costs and benefits of recycling?
- ✓ Will a decrease in the amount disposed offset the costs of recycling?
- ✓ Can the waste hauler contract be renegotiated to include recycling?
- ✓ What will the cost be to have the waste hauler provide recycling services?
- ✓ Can the waste hauler provide recycling containers to the business?

C. Design a Program

- ✓ Get Management's support.
- ✓ Develop a training program on recycling for employees.
- ✓ Determine the size and number of containers needed and place them in strategic locations.
- ✓ Post signs over containers to let staff know what is being collected.
- ✓ Make arrangements with staff for emptying the bins.
- ✓ Plan a recycling kick-off event for the employees.

D. Encourage and Coach the Employees

- ✓ The employees play a key role in making the recycling program work. Organize recycling competitions among floors or divisions. Be creative in establishing incentives to recycle.
- ✓ Include information about the recycling program in employee orientation packages.
- ✓ Measure and share the results with the staff via emails and flyers.
- ✓ Set achievable goals for the organization.

Guidelines and resources are available in Virginia to help businesses determine the local market. In the next section, you will find additional resources to assist businesses in establishing and collecting materials to be recycled.

III. A Guide to Doing Business in Virginia**A. Marketing to the State**

Virginia's **Vendors Manual** sets forth the rules and regulations applicable to the purchase of goods and nonprofessional services by the Commonwealth. Any vendor providing goods or nonprofessional services to the Commonwealth should be familiar with the contents of this manual. For a copy of the **Vendors Manual**, contact:

Virginia Department of General Services
 Procurement Division (804) 786-1600
 P.O. Box 1199 Website: www.dgs.virginia.gov
 Richmond, VA 23218-1199

B. Business Assistance

When looking to establish or to expand a business operation in Virginia, check with the Virginia Department of Business Assistance. The Department

provides useful publications prepared by the Virginia Economic Development Partnership such as:

Virginia: A Guide to Establishing a Business 2005 - 2006)
Virginia Business Incentives (2005-2006)
Virginia Local Taxes on Business – (2005-2006)

and uses one-on-one interviews to provide a wealth of practical and necessary information on setting up a business in the Commonwealth. The VDBA can also provide access information to the various agencies of the state that may regulate or assist businesses in matters of operations.

Virginia Department of Business Assistance
 707 E. Main Street, Suit 300 Phone: (804) 371-8200
 Richmond, VA 23219 Website: www.dba.virginia.gov

C. Environmental Permitting Assistance

A primary interest to recycling industries are the regulatory requirements for their operations. The Virginia Department of Environmental Quality (DEQ), with 7 regional offices and 3 satellite offices across the state, “is committed to streamlining the steps that industry must take to obtain air, water and waste permits.” (**Virginia: A Guide to Establishing a Business**)

DEQ’s own publication, **Business and Industry Guide to Environmental Permits in Virginia**, may be obtained from:

Virginia Department of Environmental Quality (DEQ)
 P.O. Box 1105 Phone (800) 592-5482
 Richmond, VA 23218 Website: www.deq.virginia.gov

D. Local Contacts

Many localities have a recycling program manager who works with citizens and businesses to organize and support waste management projects. To view locality program recycling managers visit DEQ’s web site at: <http://www.deq.virginia.gov/recycle/contactlist.html>. These managers have proven to be a valuable resource for businesses seeking to set up company recycling programs, and should be contacted early in the company’s recycling program review. Earth 911 also provides valuable resources for businesses wishing to recycle and has information on their website for each state. Visit Earth 911 by going to: <http://www.earth911.org/master.asp>

The business may also contact the Regional Offices of the Department of Environmental Quality for information on permitting and regulatory requirements,

and for information on conducting waste stream and process reviews. The Regional Offices contact information is as follows:

DEQ, Southwest Region
355 Deadmore Street
P.O. Box 1688
Abingdon, VA 24212
(540) 676-4800

DEQ, West Central Region
3015 Peters Creek Road
Roanoke, VA 24019
(540) 562-6700

DEQ, Valley Region
4411 Early Road
P.O. Box 1129
Harrisonburg, VA 22801
(540) 574-7800

DEQ, Northern Region
13901 Crown Court
Woodbridge, VA 22193
(703) 583-3800

DEQ, Piedmont Region
4949-A Cox Road
Glen Allen, VA 23060
(804) 527-5020

DEQ, Tidewater Region
5636 Southern Blvd.
Virginia Beach, VA 23462
(757) 518-2000

DEQ, South Central
7705 Timberlake Road
Lynchburg, VA 24502
(434) 582-5120

In addition to the various permitting and regulatory requirements of the state, each business should contact the locality's Economic Development Office about local ordinances and permit requirements as well as about possible business assistance programs specific to the region.

E. Recycling Markets Information

Commodity specific information on recycling may be obtained from the contacts listed in the "Resources for Recycling Information" section of this manual. Recyclable material market information is available from the Mid-Atlantic Consortium of Recycling and Economic Development Officials (MACREDO) by going to <http://macredo.org/> or may be obtained by contacting DEQ. Another useful website for identifying local recycling markets is Earth 911 which can be accessed by going to: <http://virginia.earth911.org/master.asp>.

IV. Working with Local Government Recycling Programs

In establishing a business recycling program or to get information on the availability of recyclable materials, it is important to contact your local recycling program manager for information on existing recycling programs and networks in your area. This may reduce start up time for your recycling program as it may be

possible to utilize existing contractors for the collection of your recyclable materials, and to get the program manager's assistance in promotional and educational efforts. Go to <http://www.deq.virginia.gov/recycle/contactlist.html> to look up your recycling coordinator or contact the Department of Environmental Quality for assistance.

Other contacts for recycling information include the locality's Economic Development office, its procurement office and the local Chamber of Commerce. A business should take advantage of these resources, matching its strengths with theirs, as a cooperative recycling network can provide economic and time benefits to all. DEQ's web site also provides a number of links to other helpful sites that are useful resources. Go to: <http://www.deq.virginia.gov/recycle/lin.html>

V. Analyzing Waste Generation – Conducting the Audit

The waste and recycling audit is an overall operations review to determine the flow of materials into and out of a business, and the points at which waste is generated. This waste and recycling audit can include production/manufacturing processes, office/administrative processes, and shipping/receiving processes. Once the specific waste generation levels and types (paper, steel, aluminum, glass, plastics for example) have been determined, the business can then evaluate how to reduce the generation of the wastes, and how to collect and prepare identified materials for recycling.

A business interested in getting information on performing a business waste and recycling audit should contact the Virginia Department of Environmental Quality, EPA's WasteWi\$e Program, or the Virginia Recycling Association.

VI. Resources for Recycling Information

GENERAL INFORMATION FOR VIRGINIA

Virginia Department of Environmental Quality
 P.O. Box 1105
 Richmond, VA 23218
 Phone: (804) 698-4000
 Email: gscoe@deq.virginia.gov
 Website: www.deq.virginia.gov

Keep Virginia Beautiful (KVB)
 1906 North Hamilton Street
 Suite F
 Richmond, VA 23230
 Phone: (804) 355-0085

National Recycling Coalition
Buy Recycled Business Alliance
805 15th Street, NW, Ste. 425
Washington, D.C. 20005

Phone: (202) 789-1430
Fax: (202) 789-1431
Email: info@nrc-recycle.org
Website: www.nrc-recycle.org

Virginia Department of Business Assistance
707 East Main Street, Suite 300
Richmond, VA 23219

Phone: (804) 371-8200
Email: webmaster@dba.virginia.gov
Website: www.dba.virginia.gov

Virginia Department of General Services
Division of Purchases and Supply
209 N. Ninth Street, Suite 203
Richmond, VA 23219

Phone (804) 786-3842
Email: webmaster@dgs.virginia.gov
Website: <http://dps.dgs.virginia.gov/dps/>

Virginia Department of Transportation
Public Affairs Office
1401 East Main Street
Richmond, VA 23219

Phone : (804) 786-2716
Email: vdotinfo@vdot.virginia.gov
Website: www.vdot.virginia.gov

Virginia Recycling Markets Development Council
P.O. Box 10009
Richmond, VA 23240

Phone: (804) 698-4000
Email: mpmurphy@deq.virginia.gov
Website: www.deq.virginia.gov

Virginia Organized Industry for a Clean Environment (VOICE)
P.O. Box 24
Richmond, VA 23218

Phone: (804) 644-7884

Virginia Recycling Association
Post Office Box 18155
Richmond, Virginia 23226
Phone: 1-888-867-1923 (toll free)
Email: vra@vrarecycles.org
Website: www.vrarecycles.org

Virginia Chamber of Commerce
9 South Fifth Street
Richmond, VA 23219
Phone: (804) 644-1607
Fax: (804) 783-6112
Email: c.miracle@vachamber.com
Website: www.vachamber.com

Virginia Manufacturer's Association
1108 East Main Street
Suite 700
Richmond, VA 23219-2805
Phone: (804) 643-7489
Fax: (804) 780-3853
Website: <http://www.vamanufacturers.com/>

RECYCLING INFORMATION BY MATERIAL:

- **ALUMINUM**

The Aluminum Association
1525. Wilson Boulevard, Suite 600
Arlington, VA 22209
Phone: (703) 358-2960
Fax: (703) 358-2961
Website: www.aluminum.org

Can Manufacturers Institute
1730 Rhode Island Avenue, NW
Suite 1000
Washington, D.C. 20036
Phone: (202) 232-4677
Fax: (202) 232-5756
Website: www.cancentral.com

- **ANTIFREEZE**

Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, VA 23218
Phone: (804) 698-4000
Website: www.deq.virginia.gov

- **APPLIANCES (WHITE GOODS)**

Association of Home Appliance Manufacturers (AHAM)
Appliance Recycling Information Center
1111 19th Street NW, Suite 402
Washington, D.C. 20036
Phone (202) 872-5955
Email: info@aham.org
Website: www.aham.org

Institute of Scrap Recycling Industries
1325 G Street, NW
Suite 1000
Washington, D.C. 20005-3104
Phone: (202) 737-1770
Fax: (202) 626-0900
Email: jennielylesmiddleton@isri.org
Website: www.ISRI.org

Refrigerant Recovery Programs (Disposal)
U.S. EPA
Mail Code 6205J
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460-0001
Phone: (202) 343-9410
Fax: (202) 343-2363
Website: www.epa.gov/ozone

Steel Recycling Institute
Dersen Drive
Pittsburg, PA 15220-2700
Phone: 800-YES-1-CAN -or- (412) 922-2772
Fax: (412) 922-3213
Email: jim@recycle-steel.org
Website: www.recycle-steel.org

- **AUTOMOTIVE**

Automotive Recyclers Association (ARA)
3975 Fair Ridge Drive
Suite 20-North
Fairfax, VA 22033-2924
Phone: (888) 385-1005 (Toll Free)
Fax: (703) 385-1494
Email: staff@a-r-a.org
Website: <http://www.a-r-a.org/>

Institute of Scrap Recycling Industries
1325 G Street, NW
Suite 1000
Washington, D.C. 20005
Phone: (202) 737-1770
Fax: (202) 626-0900
Email: jennielylesmiddleton@isri.org
Website: www.ISRI.org

Motor Equipment Manufacturer's Association (MEMA)
P.O. Box 13966
10 Laboratory Drive
Research Triangle Park, NC 27709-3966
Phone: (919) 549-4800
Fax: (919) 549-4824
Email: info@mema.org
Website: <http://www.mema.org/>

Steel Recycling Institute
Dersen Drive
Pittsburg, PA 15220-2700
Phone: 800-YES-1-CAN
Email: jim@recycle-steel.org
Website: www.recycle-steel.org
Website: http://www.businessfinance.com/trade_stats.asp?ID=15123

Virginia Automotive Recyclers Association
630 Country Green Lane
Charlottesville, VA 22902-6478
Phone: (804) 977-3716
Fax: (804) 979-2439
Email: easter@easterassociates.com

- **BATTERIES**

Association of Battery Recyclers
P.O. Box 290286
Tampa, FL 33687
Phone: (813) 626-6151
Fax: (813) 622-8388
Email: joycemorales@aol.com
Website: www.recycle.net/recycle/battery

- **BICYCLES**

Bikes for the World
3108 17th Street North
Arlington, VA 22201
Phone: (703) 525-0931 or (571) 212-4139
Fax: (703) 525-0931
Email: info@bikesfortheworld.org
Website: <http://www.bikesfortheworld.org/>

Richmond Re-Cycles
2611 W. Cary St.
Richmond, VA 23220
Phone: (804) 355-0166
Fax:
Email: richmondrecycles@hotmail.com
Website: <http://www.richmondrecycles.com/>

- **COMPOSTING/ORGANICS**

The U. S. Composting Council
4250 Veterans Memorial Highway, Suite 275
Holbrook, NY 11741
Phone: (631) 737-4931
Fax: (631) 737-4939
Email: admin@compostingcouncil.org
Website: <http://compostingcouncil.org/index.cfm>

U.S. Environmental Protection Agency
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Phone: (202) 272-0167
Website: <http://www.epa.gov/compost/index.htm>

Virginia Tech, College of Agriculture and Life Science
426 Smyth Hall
Blacksburg, VA 24061
Phone: (540) 231-9739
Email: gevanylo@vt.edu
Website: <http://www.cals.vt.edu/>

Virginia Recycling Association, Composting Committee
Post Office Box 18155
Richmond, Virginia 23226
Phone: 1-888-867-1923 (toll free)
Fax:
Email: VRA@vrarecycles.org
Website: <http://www.vrarecycles.org/>

- **CONSTRUCTION & DEMOLITION MATERIAL**

Construction Materials Recycling Association (CMRA)
P.O. Box 644
Lisle, IL 60532-0644
Website: <http://www.cdrecycling.org/>

Construction Materials Recycling Association (CMRA)
P.O. Box 122
Eola, IL 60519
Phone: (630) 585-7530
Fax: (630) 585-7593
Email: info@cdrecycling.org
Website: <http://www.cdrecycling.org/>

National Association of Homebuilders
1201 15th Street, NW
Washington, DC 20005
Phone: (800) 368-5242 -or- 202-266-8200 x0
Fax: (202) 785-1974
Website: <http://www.nahb.org/default.aspx>

National Association of Home Builders Research Center (NAHB)
400 Prince George's Blvd.
Upper Marlboro, MD 20774
Phone: (800) 638-8556
Fax: (301) 430-6180
Email: info@nahb.com
Website: www.nahbrc.org/

Virginia Recycling Association, C & D Committee
Post Office Box 18155
Richmond, Virginia 23226
Phone: 1-888-867-1923 (toll free)
Email: VRA@vrarecycles.org
Website: <http://www.vrarecycles.org/>

- **GLASS**

Glass Packaging Institute
515 King Street, Suite 420
Alexandria, VA 22314
Phone: (703) 684-6359
Fax: (703) 684-6048
Email: info@gpi.org
Website: www.gpi.org

- **HOSPITAL RECYCLING**

American Society for Healthcare Environmental Services
American Hospital Association
One North Franklin
Chicago, IL 60606
Phone: (312) 422-2050
Fax: (312) 422-4700
Email: rc@aha.org
Website: <http://aharc.library.net/>

Foundation for Rehabilitation Equipment & Endowments (FREE)
P.O. Box 8873
Roanoke, VA 24014
Phone: (540) 777-4929
Fax:
Email: free1@ntelos.net
Website: <http://www.free-foundation.org/>

Virginia Assistive Technology System
8004 Franklin Farms Drive
Richmond, VA 23229
Phone: (804) 662-9990 or (800) 435-8490
Fax: (804) 662-9478
Email: Ken.Knorr@drs.virginia.gov
Website: <http://www.vats.org/>

- **INDUSTRIAL/HAZARDOUS/SPECIAL USED MATERIALS**

The Millennium Exchange, LTD
P.O. Box 4875
Annapolis, MD 21403
Phone: (410) 280-2080
Fax: (410) 280-0025
Email: trade@mmex.com
Website: www.millenniumexchange.com

Southeast Waste Exchange
University of North Carolina's Urban Institute
9201 University Blvd.
Charlotte, NC 28223-0001
Phone: (704) 547-4289
Fax: (704) 547-3178
Email: MLMay@email.uncc.edu/exchange
Website: <http://www.ehso.com/wastexchold.php>

- **METAL SCRAP**

Institute of Scrap Recycling Industries
1325 G Street, NW
Suite 1000
Washington, D.C. 20005-3104
Phone: (202) 737-1770
Fax: (202) 626-0900
Email: jenniylesmiddleton@isri.org
Website: www.ISRI.org

Steel Recycling Institute
Dersen Drive
Pittsburg, PA 15220-2700
Phone: (800-YES-1-CAN)
Email: jim@recycle-steel.org
Website: www.recycle-steel.org

- **OIL (USED)**

American Petroleum Institute (API)
1220 L Street, NW
Washington, D.C. 20005 4070
Phone: (202) 682-8000
Website: www.API.org

- **OIL FILTERS**

Filter Manufacturers Council
Motor Equipment Manufacturer's Association
P.O. Box 13966
10 Laboratory Drive
Research Triangle Park, NC 27709-3966
Phone: (919) 406-8817
Fax: (919) 406-1306
Email: rbumpass@mema.org
Website: www.filtercouncil.org

Steel Recycling Institute
Dersen Drive
Pittsburg, PA 15220-2700
Phone: 800-YES-1-CAN
Email: jim@recycle-steel.org
Website: www.recycle-steel.org

- **PALLETS**

National Wood Pallet and Container Association
329 South Patrick Street
Alexandria, VA 22314-3501
Phone: (703) 519-6104
Fax: (703) 519-4720
Website: www.nwpca.com

- **PAPER**

American Forest & Paper Association (AFPA)
1111 Nineteenth Street, NW
Suite 800
Washington, D.C. 20036
Phone: (800) 878-8878
Email: info@afandpa.org
Website: www.afandpa.org

Institute of Scrap Recycling Industries (ISRI)
1325 G Street, NW
Suite 1000
Washington, D.C. 20005-3104
Phone: (202) 737-1770
Fax: (202) 626-0900
Website: www.ISRI.org

- **PLASTICS**

American Plastic Council (APC)
1300 Wilson Blvd.
Arlington, VA 22209
Phone: 1-800-2-HELP-90
Website: www.plasticsresource.com

National Association of Plastic Container Recovery (NAPCOR)
PO Box 1327
Sonoma, CA 95476
Phone: (707) 996-4207
Fax: (707) 935-1998
Email: information@napcor.com
Website: www.NAPCOR.com

- **RENDERING**

Valley Protiens
151 Valpro Drive
Winchester, VA 22603
Phone: (540) 877-2590

- **REUSABLE ITEMS/MACHINERY/MISCELLANEOUS**

See local Yellow Pages for civic and charitable organizations, as well as local Family Services Department ofr donation opportunities.

The Freecycle Network™
P.O. Box 294
Tucson, AZ 85702
Email: info@freecycle.org
Website: <http://www.freecycle.org/>

The Millenium Exchange, LTD
P.O. Box 4875
Annapolis, MD 21403
Phone: (410) 280-2080
Fax: (410) 280-0025
Email: trade@mmex.com
Website: <http://www.millenium-exchange.com/>

- **STEEL CANS**

Can Manufacturers Institute
1730 Rhode Island Avenue, NW
Suite 1000
Washington, DC 20036
Phone: (202) 232-4677
Fax: (202) 232-5756
Website: www.cancentral.com

Steel Recycling Institute
Dersen Drive
Pittsburg, PA 15220-2700
Phone: 800-YES-1-CAN
Email: jim@recycle-steel.org
Website: www.recycle-steel.org

- **TEXTILES**

Council for Textile Recycling
Secondary Materials and Recycled Textiles Association (SMART)
7910 Woodmont Avenue, Suite 1130
Bethesda, MD 20814
Phone: (301) 656-1077
Fax: (301) 656-1079
Email: bernie@smartasn.org
Website: www.smartasn.org

- **TIRES**

Tire Association of North America
1532 Pointer Ridge Place, Suite G
Bowie, MD 20716-1883
Phone: (800) 876-8372 -or- (301) 430-7280
Fax: (301) 430-7283
Email: INFO@TIREINDUSTRY.ORG
Website: www.TANA.net

Scrap Tire Management Council
1400 K Street, NW
Suite 900
Washington, D.C. 20005
Phone: (202) 682-4800
Website: www.RMA.org

Virginia Department of Environmental Quality
Waste Tire Management Program
P.O. Box 1105
Richmond, VA 23218
Phone: (804) 698-4029
Fax: (804) 698-4224
Email: gscoe@deq.virginia.gov
Website: www.deq.state.va.us

- **ADDITIONAL SOURCES OF BUSINESS RECYCLING INFORMATION**

Air & Waste Management Association
1 Gateway Center, 3rd Floor
Pittsburgh, PA 15222-1435
Phone: (800) 270-3444 - or- (412) 232-3444
Fax: (412) 232-3450
Email: info@awma.org
Website: www.awma.org

Environmental Industries Association
4301 Connecticut Avenue, NW
Suite 300
Washington, D.C. 20008-2304
Phone: (202) 244-4700
Fax: (202) 966-4818
Email: membership@envasns.org
Website: <http://www.envasns.org/>

Institute for Local Self-Reliance
927 15th St. NW, 4th Fl.,
Washington, D.C. 20005
Phone: (202) 898-1610
Email: info@ilsr.org
Website: www.ILSR.org

Keep American Beautiful (KAB, National)
1010 Washington Boulevard
Stamford, CT 06901
Phone: (203) 323-8987
Fax: (203) 325-9199
Email: info@kab.org
Website: www.kab.org

Metropolitan Washington Council of Governments (Metro COG)
777 North Capital Street, NE
Suite 300
Washington, D.C. 20002
Phone: (202) 962-3200
Fax: (202)-962-3201
Website: www.MWCOG.org

Mid-Atlantic Consortium of Recycling and Economic Development Officials
(MACREDO)
C/O The Delaware Economic Development Office
Philadelphia, PA 19146
Phone: (215) 546-0724
Website: <http://macredo.org/>

National Recycling Coalition (NRC)
805 15th Street NW, Ste. 425
Washington, D.C. 20005
Phone: (202) 789-1430
Fax: (202) 789-1431
Website: www.nrc-recycle.org

Solid Waste Association of America (SWANA)
P.O. Box 7219
Silver Spring, MD 20907-7219
Phone: (800) 467-9262
Fax: (301) 589-7068
Email: info@swana.org
Website: www.SWANA.org

U.S. Environmental Protection Agency (EPA)
Office of Solid Waste (OS-305)
WasteWise Program (5306W)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
Phone: (800) 372-9473
Fax: (703) 308-8686
Email: ww@erg.com
Website: www.epa.gov

RECYCLING AND SOLID WASTE MANAGEMENT PUBLICATIONS

- **BUYING RECYCLED PRODUCTS**

Recycled Products Guide

P.O. Box 577

Ogdensburg, NY 13669-0577

Phone: (800) 267-0707

Fax: (877) 471-3258

Email: info@recyclingmarkets.net

Website: www.recyclingdata.com

- **GENERAL INFORMATION**

American Recycling Market Guide

P.O. Box 577

Ogdensburg, NY 13669-0577

Phone: (800) 267-0707

Email: info@recyclingdata.com

Website: www.recyclingdata.com

BioCycle

419 State Avenue

Emmaus, PA 18049

Phone: (610) 967-4135 ext. 22

Website: www.jgpress.com

Resource Recycling

P.O. Box 42270

Portland, OR 97242-0270

Phone: (503) 233-1305

Fax: (503) 233-1356

Email: info@resource-recycling.com

Website: www.resource-recycling.com/

Waste Age Magazine

6151 Powers Ferry Road NW

Atlanta, GA 30339

Phone: (770) 618-0201

Fax: (770) 618-0349

Email: sursery@prisimb2b.com

Website: www.wasteage.com

Waste News

1725 Merriman Road
Akron, OH 44313

Phone: (330) 836-9180
Fax: (330) 836-7409
Email: editorial@wastenews.com
Website: <http://wastenews.com/headlines.html>

• **METALS**

American Metal Markets

1250 Broadway, 26th Floor
New York, NY 10001

Phone: (646) 274-6267
Email: Custserv@amm.com
Website: www.AMM.com

• **PAPER**

Paper Stock Report

9815 Hazelwood Avenue
Cleveland, OH 44149-2305

Phone: (440) 238-6603
Fax: (440) 238-6712
Email: psr@recycle.cc
Website: <http://198.170.115.168/psrpage.htm>

• **PLASTICS**

American Plastics Council

1300 Wilson Blvd.
Arlington, VA 22209

Phone: 1-800-2-HELP-90
Website: http://www.americanplasticscouncil.org/s_apc/index.asp

VII. Identifying Recyclable Materials

This section gives a brief overview of the more commonly recycled materials and suggestions on capturing them in the workplace. By incorporating recycling into its business plan, a business can reduce its waste disposal costs while encouraging environmental awareness in its work force. In addition to recycling, a business should make a commitment to “closing the loop” through a Buy Recycled purchasing program. Purchasing recycled paper grades, items made of steel, and other items packaged or produced using recycled material enforces a business’ commitment to recycle. Purchasing managers can obtain

information on this through the National Recycling Coalition's (NRC) Buy Recycled Business Alliance and EPA's Waste Wi\$e Program.

- **ALUMINUM**

Cans: Aluminum cans are commonly found at employee break areas, vending machines, workstations, food preparation areas and dining areas. Beverage containers aggregately account for about 3% of all solid waste. Aluminum cans are easily added to a recycling and waste minimization program by placing marked bins at strategic locations in offices, break areas, point of purchase/consumption areas and near trash receptacles. Depending upon your recycling contractor or municipal program, commingling aluminum, steel, glass and plastic containers together is acceptable. These are sorted at the recycling facility.

Aluminum Scrap: bulkier aluminum is often generated in offices and industrial locations. These items are usually not discarded since they are heavy and have a value if brought to the local scrap metal dealer. Since aluminum cans are not the same alloy as other aluminum scrap, cans need to be separated. Gutters, window casing, sliding storm windows/doors, lawn furniture, gas grills, some automotive parts and other industrial generated aluminum can be recycled.

- **ANTIFREEZE (Ethylene Glycol)**

Business generating this recyclable material can contract with private special waste contractors to handle storage, transportation and manifesting of this and other "special" waste fluids and chemicals. It should be handled carefully at generation points such as: marinas, Do-It-Yourselfers (DYIs), homes, farms, and commercial auto/equipment facilities. It is toxic to animals, humans, and aquatic life. Never mix used antifreeze with other chemicals as it can be dangerous.

- **APPLIANCES (commonly referred to as White Goods)**

The term "white goods" applies to bulky items made of mostly steel like refrigerators, washers, dryers, air conditioning units, water heaters, stoves, and stainless steel kitchen furnishings used by homes and businesses. Other than homes, hotels, restaurants and food processing facilities are the largest generators of these recyclable items.

If the appliance contains a chlorofluorocarbon (CFC) gas, it must be evacuated by a professionally certified and trained individual or brought to your municipal collection center where the CFCs can be properly evacuated. It is against the law to knowingly and willfully vent CFCs from an appliance or automobile without using the proper evacuation equipment.

Once this is accomplished, scrap processors and municipalities may need to take additional steps to prepare the appliance for recycling (i.e. removing capacitors and mercury switches).

- **AUTOMOBILES, TRUCKS & EQUIPMENT**

Vehicle and equipment recycling is very important and often overlooked. Many parts of vehicles, trucks and machinery and equipment are reused or remanufactured (starters, engines, transmissions, conveyor systems, assembly lines, etc.). This is the first step in the process of recycling vehicles. Abandoned vehicles are managed at the local level where they can receive a \$50 rebate from the Virginia Department of Motor Vehicles for sending a vehicle to an auto dismantler. Obsolete vehicles are generally brought by a towing service to an auto dismantler. Here, the dismantling company properly evacuates and recycles the oils and other fluids, CFC's from the air conditioning unit, batteries, tires and other salvageable items for resale, rebuilding or recycling. The vehicle is then crushed and transported to a local automobile shredder where the steel and non-ferrous metals are extracted by magnets and other sortation methods for sale to steel mills, foundries and the metals industry for feedstock in the manufacture of new products. This process is similar for obsolete manufacturing equipment if it is not rebuilt, reused or resold.

- **COMPOSTING**

Composting is a natural, organic soil amendment easily made from grass clippings, leaves, brush, branches and almost anything that grows around your business or comes from the food service area. When certain food scraps and yard trimmings are properly composted, the final product is a material suitable for a soil amendment.

Composting and mulching offers an important step to reduce organic solid waste generated from a business. Encourage your staff or lawn maintenance contractor to establish a plan for reducing your organic waste. Recycle what is generated and purchase lawn products with recycled material when possible.

- **CONSTRUCTION AND DEMOLITION DEBRIS**

This is a growing area of equipment/market development and waste management in the construction industry. New markets and equipment are developing for gypsum wallboard and wood products, as well as for resulting concrete and asphalt debris from demolition. Heavy and light gauge steel and steel reinforcement bar already have a market (see "Metal Scrap" in this section). Many local home building associations are developing programs for builders and renovators to learn how to manage, develop markets and reuse or reduce materials. Commercial contractors often have side businesses to collect and

process marketable materials. A leader in this area is the National Association of Home Builders and C&D Recycling magazine.

Obvious materials encountered during remodeling/demolition includes drywall, steel studs, wiring, woods, masonry and concrete. Check with your contractor to determine if markets for various demolition materials exist. Many contractors are entering this market and are reselling salvaged materials. Materials like steel wall studs, steel I-beams, wiring and plumbing materials are sent to scrap dealers. Lighting and bathroom fixtures may also be resalable items. Using common sense and creativity in large demolition and remodeling projects may save money or provide materials for someone else's project.

- **GLASS**

Glass food and beverage containers are easy to collect in the workplace. They are commonly found at employee break areas, vending machines, workstations, food preparation areas and dining areas. Depending upon your recycling contractor or municipal program, commingling aluminum steel, glass and plastic containers together may be acceptable. Large quantities of glass should be separated by color (clear, green or brown). Blue glass containers can be put with brown glass.

Non-container glass must not be mixed with container glass. Examples of non-container glass include: plate glass from windows, light bulbs, ceramic mugs, baking dishes, and vehicle headlights. Contact your local recycling coordinator about the potential to recycle these items.

- **INDUSTRIAL WASTE**

Waste from a manufacturing or processing facility needs to be evaluated for possible reuse or recycling options. A waste audit can identify the quantities and characteristics of the waste, while a process audit can identify the sites of generation and possible ways to reduce the level of waste generated. There are a number of waste exchanges available where you may list your waste materials for possible use by another industry (see Section VI).

- **METAL SCRAP**

Scrap metal recycling is one of the oldest and largest recycling businesses. Because of the bulk, weight and value of steel (ferrous) copper, brass, and aluminum (non-ferrous), the economics are in place to divert most "metal" from landfills. Scrap dealers accept a variety of scrap metals from individuals, businesses and industrial generators. The price paid by the dealer depends upon market conditions. In some cases, the scrap dealer may charge to take the scrap.

Implementing a scrap metal program in a business is quite simple. Local or regional scrap processors contract with businesses to collect and transport scrap to their facility. It is important to know the type of scrap metal generated, the quantity generated by each metal type, and to segregate the metals by type. Clean and segregated metal will maximize the value of the material to the processor. If unique materials are generated like propane cylinders, paint cans, drums and large scrap, check with the scrap dealer to see if the scrap is acceptable. You should ensure materials are empty and dry and do not contain oil, residue or free flowing material. Invite the scrap dealer to your business to make an assessment of your material prior to entering into an agreement. This will ensure all parties are aware of the material to be processed, and that scrap is properly handled.

- **OIL FILTERS**

Oil filters generated by business and industry have several recycling options available in Virginia. An infrastructure and market is growing. Although oil filters can be land filled once punctured and/or hot drained, it is still better for the environment to contract with an established oil filter recycling company to process the filters. Since oil may remain in the filter even after draining, land filled filters could still leak an oil residue. Call the Filter Manufacturers Association or Steel Recycling Institute for information (see Section VI).

- **PALLETS**

Pallets represent the transportation industry's contribution to product delivery at all levels of commerce and manufacturing. Bulk shipments of most materials require pallets, and pallets vary in size and design based upon the materials shipped. Wood pallet recyclers take broken pallets and repair them for continued use, or de-manufacture the pallets if they are non-repairable. Material from this de-manufacturing process is used for other wood products or processed for mulch or fuel for wood burning furnaces.

- **PAPER**

In all of its forms, paper constitutes an average of 35 - 45 percent, by weight, of total municipal solid waste. In offices, that amount can be as high as 90 percent. Newsprint, corrugated cardboard, computer printout, high grade and mixed paper represent the bulk of paper waste from businesses. Most of this is recoverable through an aggressive recycling program. The American Forest & Paper Association is targeting a 55 percent recovery rate of all paper consumed in the U.S. by the year 2012.

To maximize revenue derived from paper recycling programs, segregating the various grades is suggested at the point of generation. However, for ease of collection by janitorial staff or contract services, simply commingling office paper

generated at workstations is an option for ease of education of employees. This practice may reduce recycling revenues, but it should result in avoided disposal costs.

A waste and recycling audit to determine generation rates of paper is recommended. This will help the paper recycling contractor determine options available to the business, number/size of collection bins, collection methodology, and pricing of material. A strong, ongoing employee education program is recommended to avoid paper contamination.

OLD CORRUGATED CARDBOARD (OCC) is the strong, thick type of cardboard that has a waveform or “waffle” layer between the outer layers. More OCC is recycled than any other paper grade, accounting for more than 45 percent of all paper collected. Most business and industries generate OCC as well as high grade and mixed office paper.

OLD NEWSPRINT (ONP) is found in businesses, and can be part of the recycling mix. ONP can be collected by itself or with mixed paper.

WHITE LEGER PAPER consists of copy machine, typing, stationery and quality bond paper. These are generally high grade papers that do not contain a lot of ink. These can be collected together or with the mixed paper (for a lower market price).

COMPUTER PRINT-OUT (CPO) is plain white or colored-bar data processing type paper. Clean CPO can bring a higher market price than other grades of paper.

MIXED PAPER includes old telephone books, magazines, third class “junk” mail, cardboard or chipboard. This paper, although easier to collect and convenient for employees, may not bring as much revenue.

There are many intermediate grades of paper generated by business and industry. To obtain assistance with this, contact your suppliers of paper to determine type, generation rates and markets. Often, suppliers provide “back haul” or return credits for various grades.

- **PLASTICS**

A key element of plastic recycling is identifying the resin type. The resin type (numbered 1 – 7) used in the product is usually on the base inside a recycling triangle. Plastic items that may be generated by business and industry are plastic pails, barrels and drums. These can sometimes be reused or reconditioned. Recycling of these items may be more difficult, but markets may be available for clean material. Shrink wrap is another plastic item generated in business that has a developing infrastructure for collection and recycling.

One source for plastic recycling market information is the American Plastics Council (see Section V I). You should also contact the company from which you purchased the product to determine if it has recycling options for the material.

- **REUSABLE ITEMS**

“One Person’s garbage is another’s gold.” Instead of throwing items in the dumpster, call your local recycling coordinator or solid waste director for options. Consider the local Habitat for Humanity chapter for construction materials, or offer your items to the Freecycle group nearest you. Civic groups might be interested in old furniture, computers and appliances. Churches are also a great source for finding homes for items discarded by businesses. The local Goodwill and Salvation Army are excellent options as well for materials in good condition or working order. A business may receive a tax deduction for many items in addition to helping the community. Refer to the yellow pages under “Social Services Organizations” for additional options.

- **STEEL CANS**

Steel cans include food, beverage, aerosol and paint cans, and five-gallon or smaller pails and buckets. Businesses such as restaurants and food service companies generate vast amounts of #10 food and beverage containers that weigh about .75 lbs. per can. These simply need to be void of food residue and are easily added to existing or newly established recycling programs. Hotel, industrial plant and painting companies generate large quantities of paint cans and often landfill them or are charged vast amounts of money to manage them as “hazardous waste.” Again, if empty and dry, they are recyclable and can be collected with the food cans.

Empty and dry paint and aerosol cans, once void of contents, are also recyclable since they are made from the same steel food cans are made of. Aggregate quantities generated at plants or shops many need puncturing, depending upon the scrap processor or recycling company. Check with scrap dealers to see if they will accept your cans. If not, a local recycler may take them and mix them with the steel food cans collected from curbside and drop-offs.

- **TEXTILES**

Textile recycling is the recovery and use of products made from textile fibers. The textile recycling industry diverts about two million tons of product from the solid waste stream each year. The material is collected, sorted, and processed for used clothing dealers, exporters, wiping rags and fiber recyclers. Textile firms procure a large percentage of their material from charitable organizations and institutions. Many countries and municipalities are targeting

textile products for recycling to assist in their overall approach in reducing the solid waste.

- **TIRES**

Over 4.4 million tires are scrapped each year in Virginia. About 85 percent of the waste tires generated are passenger car and light truck tires; the remainder are larger truck and equipment tires. The Virginia Department of Environmental Quality can provide information on tire recycling infrastructure and collection options in the Commonwealth. Visit DEQ's tire web page at: <http://www.deq.virginia.gov/wastetires/>

- **USED OIL**

Businesses and industry have several options for management of used oil in Virginia, including brake oil, hydraulic oil and other oils used in manufacturing. Several private companies in Virginia provide business and industry collection options for their oil. In addition to the recycling of used oil by business, many countries have used oil collection stations for citizens, and some auto service centers provide collection of used motor oil. Visit DEQ's used oil recycling web page for a list of possible sites that can accept your used oil: <http://www.deq.virginia.gov/recycle/usedoil.html>

VIII. Virginia "BUY RECYCLED" Programs

The Virginia Recycling Association (VRA) established a Buy Recycled Committee in 1995 in conjunction with the National Recycling Coalition's Buy Recycled Business Alliance. The committee's mission is to promote businesses and industries in the Commonwealth that use recycled materials as feedstock in manufacturing and purchase recycled goods to "close the loop". Recycling does not work unless products with recycled content are purchased again.

Residents in every state of the nation support America Recycles Day events held on November 15th of each year, promoting the mechanics of recycling – collection, processing, manufacturing, and buying recycled. Several companies and organizations joined the grass roots efforts at local, county and regional levels to promote the positive job opportunities and economic impacts made by recycling industries in Virginia and the United States. Companies like Union Camp, Safety Kleen, Weyerhaeuser Paper, Bear Island Paper Company and the Steel Recycling Institute provided national or state support for the first Virginia Recycles Day. Any business or individual interested in attending steering committee meetings or participating in America/Virginia Recycles Day events may call the VRA office toll free at 1-888-867-1923 or use the website www.vrarecycles.org

The National Recycling Coalition (NRC) has additional materials and opportunities available through its Buy Recycled Business Alliance (BRBA). This alliance helps counter the myths about quality and cost of recycled materials as compared to virgin materials. For further information on this program, contact the BRBA steering committee at (202) 789-1430 or visit their website at <http://www.nrc-recycle.org/brba/>.

IX. The Recycling Initiative – A Virginia History

1989

Section 10.1 -1411 (Code of Virginia): All local governments will prepare and submit solid waste management plans to the Department of Environmental Quality. Localities will specify how they will meet the mandated recycling rates of 10% by the end of 1991, 15% by the end of 1993, and 25% by the end of 1995.

Section 58.1 – 640-644 (Code of Virginia): Tire tax levied; \$0.50 per new tire sold.

Section 10.1 – 1422 (Code of Virginia): Virginia Waste Tire Management Program established, funded by a \$0.50 tax on each new tire sold. Tax collected deposited into the Waste Tire Trust Fund for use by DEQ to pay the costs of implementation of the Waste Tire Management Plan and for payments to end users of Virginia waste tire material under its End User Reimbursement Program.

1990

Governor Wilder's Executive Memorandum (April 16, 1990): Directs Governor's Secretaries to begin recycling programs in their offices and respective agencies.

Section 10.1 – 1425 (Code of Virginia): Mandates that all state agencies develop programs for the use and collection of recycled material.

Section 15.2 – 938 (Code of Virginia): Preference for purchase of recycled paper and paper products of up to 10% above next lowest bid price.

Section 15.2 -939 (Code of Virginia): Localities may pass an ordinance to require businesses to report their recycling levels to the jurisdiction for inclusion in their recycling data report to the Commonwealth.

1992

HJR 155: Requests reports from the Department of General Services on the dollar amounts spent in CY 1992 by agencies for the purchase of recycled products.

HJR 244: Joint Subcommittee to study ways to improve recycling markets.

Appropriations Act of 1992: Requested study on the cost and revenue of recyclable materials collected by state agencies.

Section 33.1-23.5:2 (Code of Virginia): Use of recycled materials in highway construction to be evaluated by VDOT.

Section 58.1-439.7 (Code of Virginia): Ten percent tax credit for purchase of machinery and equipment for processing recyclables authorized.

1993

Section 11.41.01 (Code of Virginia): A party may petition the Department of General Services, or any state agency, to include recycled goods on contract, if they are functionally equivalent.

Section 11.47 (Code of Virginia): If there is a tie bid between a Virginia manufacturer and a manufacturer of a recycled product, the bid goes to the Virginia manufacturer.

HJR 465: State agencies and political subdivisions of the state are encouraged to purchase recycled products with post-consumer content.

Section 9– 145.47 (Code of Virginia): Recycling Markets Development Council created to promote and coordinate state agencies and authorities' efforts to enhance markets for recycled or recovered materials; to promote the purchase of such products; to identify incentives to attract new businesses that can use recycled materials generated in Virginia and to identify barriers to the development of markets, including state policies, regulations and procedures.

Governor's Executive Memorandum (June 1993): Directs agencies to implement a purchase program for recycled goods. Specifically requires the purchase of four recycled office products.

1994

Section 11.47.01 (Code of Virginia): Directs agencies to implement a purchase program for recycled goods.

Section 11.41.02 (Code of Virginia): Any party may petition the Department of General Services or other agency to include less toxic goods and products in the procurement process, if functionally equivalent.

Governor's Executive Memorandum (August 1994): Directs agencies to implement a purchase program for recycled goods.

Section 58.1-439.8 (Code of Virginia): Alternate tax for purchase of recycling machinery and equipment for processing recyclables authorized.

1995

HB 1750: Amends and reenacts Section 10.1-1411, adding that twenty-five percent of the waste stream must be recycled by 1997, rather than 1995.

Section 10.1 – 1422 (Code of Virginia): Establishes the Litter Control and Recycling Fund, with 95% of collected moneys returned to localities via competitive and non-competitive grants. Litter Control and Recycling Fund Advisory Board established to review locality grant applications and make recommendations to the DEQ Director for the awarding of grants, and to promote litter prevention and recycling programs in the Commonwealth.

1996

Section 10.1 – 1411 (Code of Virginia): Following 1995, local and regional solid waste planning units will maintain a minimum of twenty-five percent recycling rate through 1997 and shall report the 1997 recycling rates to the Department of Environmental Quality by May 1, 1998.

Section 10.1 – 1416.1 (Code of Virginia): Unlawful without authorization to scavenge or remove recyclable material set out at curbside for collection.

Section 9-145.47 (Code of Virginia): Relating to the Recycling Markets Development Council, includes reference to determine the volume of materials by varying categories being recycled in Virginia and to be reported in the 1998 annual report.

1997

Section 9-145.47 (Code of Virginia): Relating to the Recycling Markets Development Council, includes reference to determine the volume of materials by varying categories being recycled in Virginia and to be reported in the 1998 annual report.

Section 10.1-1411 of the Code of Virginia requires all local governments (counties, cities, and towns) to “achieve and maintain a twenty-five percent recycling rate.” Many local governments have committed to regional solid waste and recycling programs in order to maximize the economics of scale which accompany such regional efforts. In order to reach the mandated recycling rate,

localities may require that their business members implement a recycling program of their own or participate in the recycling of the commodities selected by the area (typically aluminum cans, cardboard, newspaper, office papers, glass, plastic containers, and steel cans).

Each locality may by ordinance require a business to report its recycling information. The business will want to contact the locality's Department of Public Works or its recycling coordinator to ascertain what part it can play in helping the locality meet its recycling goals.

2006

Section 10.1-1411 of the Code of Virginia amended to require each solid waste planning unit to maintain a minimum 25% recycling rate for municipal solid waste generated, or a 15% minimum recycling rate if it: has a population density of less than 100 persons per square mile, or a civilian unemployment rate at least 50% greater than the state average.

RECYCLING IS PLANNING FOR THE FUTURE.

BE A PART OF IT.

A Department of Environmental Quality Document
Revised 2006

Special thanks to the Virginia Recycling Association for creating the original Virginia Manual on the Business of Recycling under a Grant from the Virginia Department of Environmental Quality in 1998.