

# Solid Waste Management (2007-2009)

## AGRI-PLAS (APRIL 2007)

Ellen Twist

Agri-Plas, as the name implies, is a common-sense blend of the worlds of agriculture and plastic. Ten years ago the company started its second business in Marion County specifically to recycle the millions of plastic plant containers used by nurseries. It also recycles twine and plastic feed sacks used by the livestock producers. The only unacceptable plastic is PVC (polyvinyl chloride).

From a humble beginning in an old shed on Chemawa Road, the company has moved to a ten-acre location on Waconda Road with a building containing conveyer belts and the equipment to shred the plastic containers into bits and pieces ready to recycle into new products.

Agri-Plas now has seventy employees working full time, and the company is increasing to two shifts a day, seven days a week. Two Agri-Plas trucks work full time picking up plastic from companies for a fee. For no charge, companies can haul in their own plastic waste. In addition, there are bins in the front of the building for individuals' to drop off plastic items.

Roughly 23 million pounds of plastic were recycled through Agri-Plas last year! That's 12,000 tons that wasn't sent to the Brooks Incinerator.

This number became even more significant when the owner showed us a vial of highly refined oil that had been reconverted from plastic. A new process to extract oil from plastics exists in Washington State. 10,000 pounds of plastic can convert to 7,000 pounds of oil. It looks like plastic has become an 'unnatural resource'!

## INTEGRATED WASTE MANAGEMENT--INTRODUCTION (FEBRUARY 2007)

### POLYVINYL CHLORIDE (PVC,#3)

PVC is an amazing material and has made incredible in-roads into most walks of our lives: construction, packaging, hospital products, food preparation and storage, etc. It is lightweight, durable, flexible, inexpensive, easy to transport, and long lasting.

Upon closer observation, PVC is not without a major flaw. Any time it is incinerated, it forms dioxin. (*Waste Incineration, A Dying Technology*, Neil Tangri, p.1) Dioxin is a toxic pollutant linked with numerous health issues including cancer. (2006 National Academy's Review of EPA's Dioxin Reassessment, p. 108).

Be aware of products with PVC and avoid them wherever possible. Look for clues:

- 1=Recycling #3, (inside the arrowed logo on container bottom)
- 2=An 'off-gas' smell (such as in a new car or shower curtain).
- 3=PVC containers always have a line or seam, and
- 4=Creasing the plastic creates a white line.

Marion County provides a free drop-off site at Minto Brown Landfill and has a website, <http://www.co.marion.or.us/PW/ES>, where you can type in "PVC" to find other places for disposal as well as ideas for reusing the item.

## CONSTRUCTION WASTE

There are two major issues in construction waste:

1=How to deal with the waste from demolished construction

and

2=How to build new structures in a more environmentally friendly way.

Marion County encourages recycling and reuse of construction materials. A link on their web site at <http://publicworks.co.marion.or.us/es/> helps people find out how to dispose or recycle a particular material.

For used construction materials, the county operates a special landfill on Browns Island so that toxic items can be contained, kept out of the burner, or await recycling.

To reduce future waste the County encourages sustainable building practices through the use of "green" construction techniques. A number of resources have been compiled in the pamphlet Sustainable Building Guide. This free book includes ideas for using recycled or salvaged materials; solar energy (both passive and active); thinking smaller; buying locally; avoiding PVC and plastics that might produce toxins; using organic or natural materials; and avoiding waste during the construction process.

## E-WASTE (ELECTRONIC)

One of the emerging problems in waste disposal and recycling is the proliferation of electronic gadgets and machines. As technologies create new and more sophisticated e-machines, yesterday's machines are ending up in landfills or refuse burners. (It is estimated that by the end of 2006, Americans will have disposed of 300 million obsolete computers! (1)

There are emerging ways of addressing this problem:

1= Some states charge a disposal fee at point of sale; California is an example.

2=Manufacturers of TVs, etc., are responsible for collecting and recycling their products; Maine is an example.

3=Creating a fund via manufacturing fees to be used for e-waste disposal; Maryland, for example.

4=Banning e-waste from incineration; Massachusetts and Minnesota have this ban.

5=Individual disposal sites charge a fee for handling e-waste. 6=Requiring buy back by manufacturers--product stewardship.

At the present time, Marion County is studying and reviewing various options, but as of February 2007 has not adopted a policy. There is an attempt to promote reuse and recycling. The 2007 Oregon State Legislature has three pending bills proposed to deal with e-waste that require manufacturers to finance or provide a recycling program.

1 <http://www.Nsc.org>

## INTEGRATED WASTE MANAGEMENT--PART 1 (MARCH 2007)

Notes by Sally Hollemon

Excellent presentations on Part 1 of our local League two-year study of *Integrated Waste Management* were given by Deanie Anderson, David Phelps, and Ellen Twist at March 2007 Unit

Meetings. Other members of the study committee are Susann Kaltwasser and Tina Hansen. The emphases in the March Unit presentations were construction waste, E-waste, and PVCs.

David said that people planning to remodel or build should obtain a free copy of the *Sustainable Construction Guide* from Marion County Public Works, 5155 Silverton Road NE, and give the booklet to their contractor. The Guide contains suggestions for "green" building as well as places to recycle used cement and other construction materials. Sheetrock or other materials should be removed whole so they can re-used.

David said that E-waste is a world-wide problem since electronic equipment, including TVs, cell phones, and computers, are numerous, become obsolete quickly, and contain toxic materials. A national program of standards is needed to prevent dumping of E-waste on underdeveloped nations, but there is currently no good solution to the problem of E-waste.

Ellen handed out round stickers that say "Do not top off!" to put onto cars' gas caps to prevent unnecessary air pollution from the benzene in gasoline fumes. She emphasized avoiding PVCs (#3 plastics), and looking for products made from other materials, but, if you already have PVC lawn furniture, for example, it is safe to use, so keep it and use it as long as possible. If you have PVC items to discard, save them for Earth Day, when Marion County allows these to be dropped off at various sites.

Deanie said the Marion County Public Works website at <http://apps.co.marion.or.us/Recycle> shows where to recycle a long list of items: If the item you wonder about isn't on the list, you can type in its name and click on "Search." You can also call the Recycling Hotline at 503-390-4000.

Other suggestions to "Help Go Green:" Use compact fluorescent bulbs; save and reuse water bottles; pull the plug on electronic and chargers (if they're plugged in, they're using energy even when turned off); take shorter showers; buy a hybrid car; buy local food products (reduces transportation and packaging); take cloth bags to the market; put on a sweater instead of turning up the heat; use recycled paper.

## **INTEGRATED WASTE MANAGEMENT--PART 2 (MARCH 2008)**

### **Purpose of this study**

LWV of Marion and Polk Counties is in the process of updating its 1974 Solid Waste position. That study was entitled: *Waste--Do We have a Problem?* The current study is looking at the new issues surrounding waste management and the present services provided by Marion and Polk Counties. This study is also examining current and upcoming county contracts and future technologies. We need to develop League positions that allow us to speak to contract negotiations, to evaluate the merits of various trends in waste management, and to testify on proposed legislation.

**Definitions:** Source: <http://www.ciwmb.ca.gov>

*Waste Management Hierarchy:* The order of preference of waste management techniques--reduce, reuse, recycle, dispose.

Explanation: Individuals and businesses should look for opportunities to reduce the waste that they generate before they practice any other option.

*Waste Reduction:* Actions taken before waste is generated to either reduce or completely prevent the generation of waste.

*Integrated Waste Management:* Managing waste by multiple techniques to achieve solid waste and resource conservation goals. This could include waste reduction, reuse, recycling, composting, transformation, incineration, disposal to landfills.

*Solid Waste:* Refers to garbage, refuse, sludges, used oil. It generally does not include dissolved particles unless separated from their liquid.

*Source reduction:* Any action which causes a net reduction in the generation of solid waste.

*Precycling:* Refers to actions such as making purchasing decisions that will reduce waste such as buying goods with less packaging.

## **WE ARE THE PROBLEM. WE ARE THE SOLUTION.**

### **Polk County Services**

Polk County is serviced by five recycling and waste-disposal companies. Each company provides a variety of recycling options and collection events throughout the year for hazardous waste, wood waste, scrap metal and appliances.

These companies are supervised by a professional in the Community Development Division located in the County Courthouse in Dallas, Oregon. This person has many other duties as well.

Originally, Polk County established a citizen advisory board for the county commissioners similar to Marion County's Solid Waste Management Advisory Council (SWMAC ) to provide the Polk County Commissioners with a volunteer group of professionals from various backgrounds who could provide advice and guidance regarding waste management. This is also a legal expectation. Unfortunately, due to the lack of volunteers, the advisory board no longer exists.

### **Medical Waste**

There are two main sources of medical waste: that which is home generated and that which is generated by health-care facilities, including veterinarian services.

These products are collected in special containers and taken to the Marion County waste-to-energy facility located in Brooks, Oregon, where these materials are incinerated at 1800-2000 degrees Fahrenheit.

It is difficult to know the exact amount of medical waste incinerated on a yearly basis but a reasonable estimate is that 300 tons of in-county waste were incinerated in 1997 and an additional 1,300 tons of out-of-county waste were incinerated in 2000.

The out-of-county waste is provided as a service to other jurisdictions in order to give them a safe disposal option. The incineration provides monies to Marion County in two ways: a tipping fee and the generation of electricity. The revenue raised by accepting out of county waste is tallied separately and is used to fund waste-reduction programs. This money amount can vary and, therefore, support for these programs varies.

## **Oregon Green Schools**

Although Green Schools have been around since the 1970s, a non-profit organization was formally established in 1997 to help Oregon schools set up and maintain effective, permanent waste reduction and resource-efficient programs. The organization's website is <http://www.oregongreenschools.org>.

From Roseburg to Portland to Baker City, nearly 200 schools are on the Oregon Green Schools map. Of these, 65 are in Marion County and 30 are in the Salem-Keizer School District; three of those are considered Premier status. To achieve this label requires commitment by administration, a dedicated teacher or teachers to run the program, and enthusiastic, persistent students. Kelley Cooley is responsible for the Green Schools program in the S-K schools, and Petrina Eger provides services within the rest of Marion County.

The application is extensive and requires the local coordinator to list the school's plan to recycle, reduce waste, save energy (Watt Watcher program) and conserve water; detail how the program will be sustained; give percentage goals for reduction of waste and items to be recycled; and describe planned outreach to the community.

There are three levels of attainment based on increasing goals and outreach to the community. Each school involved in the Green Schools program benefits by receiving a \$300 grant to use in support of its program; the money comes from the facilities budget of the school district.

Award-winning schools are also invited to present their programs at the Green Schools Summit (which is March 13 this year) so other schools can learn from them. The several companies that haul solid wastes in the local area help to make this possible by paying for a substitute teacher and mileage.

Salem schools recycle milk cartons, classroom paper and batteries. Cafeteria utensils and plates are in flux now since the loss of a Styrofoam vendor. It is hoped that there will be a return to washable items.

In February several League members visited two Green Schools--Claggett Elementary School and Leslie Middle School. The Green School coordinators at these schools demonstrated that innovative, consistent efforts by staff and students are effective waste reducers, which benefits our county and our future.

## **E-Waste**

Electronic Waste is a term loosely applied to consumer and business electronic equipment that is near or at the end of its useful life. There is no clear definition of e-waste, and what is accepted for recycling or disposal varies by location.

Oregon's electronic recycling law was enacted in 2007 (House Bill 2626). It created a statewide collection, transportation and recycling system for TVs, desktop and portable computers, and computer monitors. This law does not cover other electronic devices such as cell phones, fax machines and printers.

However, Marion County has elected to expand its recycling program to include microwaves, photocopy machines and all other electronic devices not covered by the state mandate. Thus, Marion County citizens are fortunate to be able to recycle computers, peripherals, stereos, VCR/DVD

players, portable music devices, video cameras, laptops, projectors, telephones, cell phones, PDAs and any electronic device they may own.

Marion County is in the forefront of e-waste recycling. All electronics collected at the transfer stations are handled in an environmentally and socially responsible manner.

Re-usable components are gleaned and turned into refurbished computers. This program provides jobs for adults with disabilities in Marion County. A recent visit to the Marion County Transfer Station showed that care is taken in the managing of e-waste and that it is a very popular service.

## **We are the problem**

According to *The Story of Stuff* (a 20-minute animation of the consumerist society, narrated by Anne Leonard, <http://www.storyofstuff.com>), for every garbage can of waste that we roll out to the curb, it takes about 70 cans of waste to produce it. This includes extracting the raw materials, manufacturing the product, packaging it, shipping it to a store, advertising it for sale, and then wrapping it for the journey to your home.

We discard about 90% of everything we purchase. American consumers now purchase about 50% more goods than they did in 1950. According to the EPA, each person generates about four pounds of waste a day.

Marion County has the highest recycling rate in Oregon at 57%. Yet we continue to send increased quantities of waste materials to the incinerator at Brooks or to the landfill at Coffin Butte near Corvallis.

The only way to get ahead of the trend is to not just recycle more, but to change some of our consumer practices so that we produce less waste in the first place. If we are the cause of the problem, we can be part of the solution.

The hierarchy of waste management identifies six layers of a pyramid. Prevention is seen as being the smallest share of the waste pyramid, but as time goes on we must work to invert the pyramid so that prevention, minimization and reuse are larger than disposal. Businesses are beginning to look at cutting their costs by exploring ways that they can reduce waste. Consumers need to do the same at home through their buying habits.

## **We are the solution**

Recycling is great, but it is no longer enough. We need to reuse materials or donate unwanted items as well. But even more important is to reduce waste by not producing it in the first place. This is called "waste reduction." Decisions you make before you buy can make a big difference in the amount of waste you produce.

**Before shopping**, make a list and ask yourself:

1. What do I really need? Do I need it or do I just want it? Do I already have something I could use?
2. How much of this item do I really need?
3. When and where will I use this item again? Can I borrow or rent what I need instead?
4. What will be left when I am done with it?

**While shopping**, ask yourself these questions:

1. Will this product last a long time? Or is it just a one-time use?

2. Which package makes the least waste?
3. What does the label say about hazardous waste, use of recycled materials, or safety standards?
4. Does the product serve my needs?
5. What size do I really need? Larger sizes tend to be more economical only if you will use all of the contents.
6. Bring your own reusable bag(s) for your purchases.

**After you make a purchase**, take care of the product and packaging properly.

1. Repair products when possible.
2. Reuse or refill the packaging if possible.
3. Share or donate any leftovers.
4. Recycle the packaging.
5. Dispose of it safely--but only as a final option!\*

You can find many excellent resources with similar ideas on the Internet.

- A good source for recycling information is the Marion County website, <http://www.co.marion.or.us/PW/ES/recycle/>. There is information on how to dispose of, recycle or reduce your waste.

### **Committee members**

Deanie Anderson, Chair; Tina Hansen; Susann Kaltwasser; David Phelps

## **MARION COUNTY WASTE MANAGEMENT--CHAPTERS 1 & 2 (NOVEMBER 2008)**

### **CHAPTER 1 SUMMARY**

The League's Solid Waste Management update will focus on reviewing the status of the solid waste system, evaluating alternatives for expanding waste reduction and recycling goals, and make recommendations to improve and expand services while identifying the needs and opportunities for the next 10 years.

The Oregon Department of Environmental Quality (ODEQ) has reported that Marion County achieved a recycling rate of 57% in 2006.

Over the past 20 years, the mainstay in reducing the dependency on landfilling has been operation of the Waste to Energy Facility (WTEF) in Brooks, converting an annual average of 182,682 tons of waste per year into 11 megawatts of electrical power for sale to the Portland General Electric Company. The League's update will consider the status of the plant and evaluate the options on whether this plant should continue to be part of the County Solid Waste System.

The update of the SWMP will:

- Review the progress to date and verify if assumptions made in 2002 are still valid;
- Consider impacts from changes in regulations, technology, and market conditions;
- Determine if and when new or expanded facilities will be required; and,
- Update administrative and management practices to ensure financial stability.

The guiding principle in Marion County's solid waste management planning is that solid waste should be viewed and managed as a resource. The system includes the WTEF, landfills, transfer facilities, curbside recycling, waste reduction and recycling facilities, a yard debris/wood waste recycling program, public education, and outreach programs.

Some of the key issues to be addressed in the update are as follows:

1. What other programs / services can be implemented to reduce waste and increase recycling?
2. Population and industry growth in the county results in increased need for recovery and disposal resources. How should the system address this growing demand?
3. WTEF has been an important part of Marion County's solid waste system since 1986. What is the future of the plant given that contracts for operation of the WTEF as well as the sale of energy are due to expire in 2014?
4. What new facilities or services are needed to meet the future solid waste system's needs? This would include consideration of new or emerging technologies. Are the current financial condition and rate structure adequate to maintain fair and equitable rates and fiscal stability?

## **CHAPTER 2 SUMMARY**

This chapter provides the following information:

- The physical and economic characteristics of the planning area (Marion County);
- A description of the current solid waste management system;
- An analysis of the current solid waste-stream composition;
- Trends in waste generation and recovery rates since the 1995 SWMP; and
- Waste generation projections.

### *Characteristics*

As of 2007, the County has a population of 311,070. Half of the residents live in Salem. The economic base of the county includes government, agriculture, food processing, forest products, manufacturing, education and tourism.

### *Solid Waste Management System*

The solid waste system in Marion County consists of collection, transfer, waste recovery, recycling, household hazardous waste, composting and disposal facilities and services. There are eight private companies that provide collection of municipal solid waste from residences and commercial establishments. Franchise agreements made by local municipalities and Marion County grant each company the sole right to collect solid waste and residential curbside recyclables from a specified area. Service charges are regulated by cities and by Marion County.

The Salem+Keizer Recycling and Transfer Station (SKRTS) is located southeast of Salem off Highway 22. Solid waste received at SKRTS is transferred to the Waste-to-Energy Facility (WTEF) for processing. In addition to the solid waste, recyclables are accepted at SKRTS. Some recyclable materials are transported to the Marion Resource Recovery Facility (MRRF) for sorting and recovery.

The Waste-to-Energy Facility (WTEF) began operation in 1986. Covanta Energy, formerly Ogden Martin, operates the facility under a contract with Marion County. The plant is designed to burn approximately 550 tons of municipal solid waste per day or about 185,000 tons per year. In 1998, air quality controls were added to meet new federal standards for mercury and nitrogen-oxides (NOx) emissions. The current operating contract with Covanta Energy expires in 2014.

Waste in excess of the WTEF's capacity is hauled to Coffin Butte Landfill in Benton County. Coffin Butte is a 700-acre site north of Corvallis and is privately owned and operated by Allied Waste Industries, Inc. This facility is expected to be in operation in excess of 30 years.

There are two landfills in Marion County that are permitted to accept limited types of waste. North Marion County Disposal Facility (NMCDF) accepts ash from the WTEF, and the Brown's Island Demolition Landfill (BI) receives certain types of construction and demolition debris.

The North Marion County Disposal Facility (NMCDF) encompasses a total of 94 acres and receives an average of 140 tons of ash residue per day. Each ash landfill cell is designed with a bottom liner to prevent precipitation that enters the cell from migrating into the groundwater. Water that accumulates in the ash cell is called leachate and is collected and transported to a storage lagoon. The County contracts for ash leachate hauling and disposal to a landfill in eastern Oregon.

The Brown's Island Demolition Landfill is permitted to accept only inert demolition waste such as gypsum wallboard, roofing tiles, ceramics, bricks, concrete or other inert materials.

There are many private firms and volunteer organizations that participate in programs to recycle materials from the County's waste stream.

- Garten Services, Inc. (Garten), a non-profit organization, is the largest recycling organization in the county; it processes mixed paper, newspaper, cardboard, glass containers, tin cans, household aluminum, and rigid plastic containers.
- The Marion Resource Recovery Facility (MRRF) is operated as a cooperative organization of the franchised collection companies in the County and separates out cardboard, waste paper, and other recyclables to be recovered from the commercial waste loads.
- Wood Waste Recovery (WWR) is a privately-owned 10-acre composting and wood mulching facility located in Aumsville. WWR receives wood and yard waste from the two transfer stations in the County, franchised curbside haulers, and from self-hauls. It is then composted and turned into a product that is sold to retailers and nurseries.

### *Waste Stream Composition*

The composition of the waste stream determines the distribution of types and quantities of materials in the waste stream, including recyclable and compostable materials. Trends observed since the 2002 Marion County SWMP show that waste generated in Marion County increased by 32 percent from 2001 to 2006. Waste recovered in Marion County increased by approximately 36 percent during the same period. The recovery rate, excluding credits, increased to 51.5 percent in 2006, up from 50 percent in 2001. With credits assigned to waste-reduction efforts (waste reduction and recycling) the recovery rate is 57.5 percent.

### *Projections*

The Waste Stream Analysis provides a summary of current waste stream generation and composition in Marion County and forecasts future disposal and recycling levels. The total waste stream is defined as tons of solid waste generated in Marion County, which includes both disposed and reused/recycled/composted wastes. Most types of solid waste are incinerated or land-filled; other wastes are reused, recycled, composted, or disposed of in sites designated for a specific type of special waste.

The majority of Marion County's MSW is incinerated at the WTEF and is reduced to ash. Ash is the second largest component of the total waste stream.

*Committee Members:* Deanie Anderson, Tina Hansen, David Phelps, Susann Kaltwasser

## **MARION COUNTY WASTE MANAGEMENT--CHAPTER 3 (DECEMBER 2008)**

### **CHAPTER 3 SUMMARY**

Marion County's Waste Reduction, Reuse, and Recycling programs continue to expand. Chapter 3 describes existing programs, then looks at future program needs and opportunities. Techniques such as increased participation in existing programs, expanded services to under-served sectors, and increased recycling of specific materials are explored.

Marion County's Department of Public Works Environmental Services Division (PWES) has implemented a comprehensive recycling and waste reduction program in cooperation with franchised hauling service providers, incorporated cities, and private recyclers. Marion County's recovery rate has grown to 57.5 percent in 2006 and is ahead of the state's 2009 requirement of 54 percent..

**Waste Reduction Programs:** Marion County Environmental Services promotes waste reduction, reuse and recycling as part of its comprehensive integrated solid waste management system. Consumer education is a key component to build a more sustainable future.

To this end the County has implemented its own Environmentally Preferable Purchasing Policy for use by County departments. Through partnerships with local businesses, trash and recyclables haulers, and citizen volunteers, PWES has developed a solid waste education outreach program to promote and advertise programs for recycling, composting and other waste-reduction methods. Some examples of these efforts include school presentations, Master Recycler/Composter program classes, Green Building classes, the Sustainable Construction Guide, and EarthWISE program Waste Matters newsletter, public service announcements and news stories, as well as a regularly updated website at <http://www.co.marion.or.us/PW/ES/>.

PWES promotes and facilitates the donation of materials for use in recycling to non-profit groups, such as Goodwill Industries, Humane Society Shop, St. Vincent De Paul Store, Salvation Army Thrift Store, the Union Gospel Mission Store, Value Village, and the Habitat for Humanity ReStore for construction materials.

EarthWISE (Workplace Initiative for Sustainable Enterprise) works with businesses on recycling, waste reduction and prevention, environmentally preferable purchasing, energy efficiency and conservation, water conservation and pollution prevention, and outreach and education.

SCOOP (Saturated Collection of Office Paper) is a program run by Garten Foundation.

### **Recycling Programs**

Recycling services include residential curbside recycling collection, multi-family housing recycling, various drop-off facilities and special waste collections for PVC, Styrofoam, latex paint, electronics, mercury-containing products, food waste, household hazardous waste, eyeglasses, appliances and plastic bags. Other recycling services are provided for tires, plastics and scrap metal.

In 1995 the County established a yard debris and wood waste compost program that now diverts over 52,000 tons of wood waste and yard debris each year.

## **Needs and Opportunities**

In order to keep up with increased waste from growth in both population and consumption, Marion County waste reduction and recycling programs will need to be increased. This will require adequate funding, collaborative efforts between government and private parties to create new services and extensive public education.

Efforts could include: · Increase participation in residential curbside recycling collection programs; · Further evaluate recycling opportunities with multi-family units; · Increase opportunities to recycle more material from commercial generators; Examine markets or market development for recyclable materials currently in the waste stream.

There are many opportunities to develop new businesses and create jobs from recovered materials that will reduce the amount of waste sent to the landfill or incinerator. Some suggestions are to build on existing programs like recycling for apartment complexes and offering rate incentives for residential and commercial services. Business recycling of paper, recovery of drywall materials to amend soil, and food waste composting could offer large decreases in the amount of materials that enter the waste stream. Textile recycling, asphalt tile recovery and diverting more plastics to such businesses as Agri-Plas are needed. The plan points out that this would require investment in processing facilities, more market research, and increased customer education.

## **Recommendations**

The consultant points out that "the overall waste reduction/reuse/recycling program in the County needs to include innovative ways to increase diversion as well as target new generators to take advantage of existing and new programs and select those materials that offer the greatest potential for recovery." The plan includes the following recommendations:

- Provide additional resources to the Marion County Waste \* Reduction and Recycling Program
- Conduct an internal audit and assessment of the Residential Curbside Recycling Program
- Complete the Pilot Study for Multi-family Recycling
- Expand Commercial Recycling Programs and Opportunities
- Divert drywall waste from Brown's Island Landfill
- Allow more dry waste material to be processed
- Develop a food-waste recycling program

**Committee:** Deanie Anderson, Tina Hansen, Susann Kaltwasser, David Phelps.

# **MARION COUNTY WASTE MANAGEMENT--CHAPTER 4 (MARCH 2009)**

## **CHAPTER 4 SUMMARY**

### **Recycling and Materials Processing**

This chapter reviews the current facilities in Marion County that receive and process materials for the purposes of recovering and marketing materials.

A key change in the solid waste system since 2002 has been the implementation of new collection services. These collection services now require or encourage residents to separate recyclable materials and yard waste from normal garbage. Each cart is collected separately, and the waste or recyclables are delivered to different facilities to be processed and/or sent to markets.

Under 1999 Oregon Revised Statutes, Marion County has the authority to franchise the collection, processing and marketing of recyclable materials. In general, local administrations in Oregon that manage solid waste (cities, counties, metropolitan service districts) are permitted to enter into agreements with state and local governments or private parties.

The County and its cities use the following to have households and businesses participate:

- Curbside collection, which is provided to most of the county
- 13 drop-off centers throughout the county
- Special materials collection events

Processing capacity for these residential materials is adequate within the system used by the County; however, there is limited collection and processing of commercial recyclables in the county. Recovery of recyclable materials from commercial waste represents an opportunity to increase recycling.

#### **Organizations and definitions:**

**Midvalley Garbage and Recycling Association** = Eight refuse collection companies franchised to provide curbside collection services in Marion County.

**SWMP** =Solid /Waste Management Plan coming from consultants JR Miller and Associates and Gershman, Brickner and Bratton, Inc., to the **SWMAC** (Solid Waste Management Advisory Council) for recommendation to the County Commissioners.

**SKRTS** =Salem-Keizer Recycling and Transfer Station off Highway 22 east of Salem, which is owned and operated by Allied Waste Company with functions set and revenues collected by the County. Source separated materials are accepted from the public and segregated for delivery to or pick up by various groups. The amount of waste received at SKRTS has increased 32% over the past four years.

**NMCDF** =North Marion County Disposal Facility is owned and operated by Marion County. In 2007 it received about 10,000 tons of waste and recyclables. Garbage and non-recyclables are transported to the WTEF for incineration.

**WTEF**= Waste to Energy Facility in Brooks that is operated by Covanta. This was explored in more detail at the Feb. 26 forum and notes will be shared in the April Focus.

**Processing** = means sorting materials and removal of unwanted or dissimilar materials to recover a clean product for sale to a best-use market.

**MRRF** =Marion Resource Recovery Facility is owned and operated by the Mid-Valley Garbage and Recycling Association and is located north of Salem west of I-5 at the Brooks exit. It serves two primary functions: It receives all commingled recyclable materials collected throughout the county,

and it processes construction and demolition (C/D) waste material. In January 2002, a 10-year agreement was arranged with FarWest Fibers and Garten Services to process curbside materials.

**Garten Services** is a private, not-for-profit organization providing many services to the community plus providing work for adults with disabilities. It is the primary processor of recyclables from non-commingled collections. It receives, grades, sorts, bales and ships mill-ready materials that it receives from various sources.

**SCOOP** =Saturated Collection of Office Paper is a program of Garten Services to increase the amount of office paper recycled from local businesses.

**Far West Fibers, Inc.** = Located in Hillsboro and opened in 1999 to process up to 12,000 tons of mixed recyclable material per month. Marion County shipped an average of 1,700 tons per month in 2007. The company believes that, although foreign markets might pay more, supplying recycled fiber to local mills helps retain jobs locally and keeps markets competitive.

**CO/NORCAL**=Compost Oregon, formerly known as WoodWaste Reclamation, was purchased in January 2009 by NORCAL of California. Located in Aumsville, it is a full-service waste management company and experienced in food waste composting.

**BI** =Brown's Island landfill, located at River Road South in Salem, accepts yard debris from the city and the county for composting and also receives most of the county's inert C/D materials for disposal.

## **MARION COUNTY WASTE MANAGEMENT--CHAPTER 5 (FEBRUARY 2009)**

### **CHAPTER 5 SUMMARY**

Chapter 5 of the Marion County consultant's report deals with current refuse collection and transfer facilities and identifies deficiencies and needs or areas where changes could be made to meet goals presented in SWMP plans.

Summarized, the objectives are:

1. Integrated solid waste management system guided by principals of: Reduce waste at the source, reuse and recycle materials, compost, recover energy, and land disposal
2. Provide services that meet diverse needs in urban and rural areas that are both effective and fair to all.
3. A system based on solid financial principles, cost-effective services, rate stability over a long term, with cost equitability to all users.
4. Materials recovered from the waste stream attain the highest and best use and are recycled.
5. Maintain system flexibility to respond to changes in circumstances.

### **Regulatory Framework**

The County regulates and franchises collection services in unincorporated areas of Marion County and may manage waste operations in areas within cities that chose not to do so themselves.

Most cities regulate these services within their jurisdictional limits. Each city determines the territory within which each hauler company will operate and what services it will provide. Nine companies are franchised to provide collection services within the county. Six of the companies are privately owned locally and three are owned by Allied Waste, a national waste-management company.

Services vary from city to city and in various parts of the county. The county sets collection rates; larger cans cost more per month than smaller ones.

Marion County is specifically authorized to "Regulate, license, franchise and certify disposal, transfer and material or energy recovery sites or facilities; establish, maintain, and amend rates charged." Marion County is granted flow control, which is the primary factor in determining the efficiency of solid-waste management, transfer and disposal.

The county maintains control over all waste generated in the county. Most non-recyclable waste is sent directly to the WTE (waste-to-energy) facility in Brooks. When the WTE facility is under maintenance or the waste load is exceptionally large, the overflow goes to Coffin Butte and sometimes to Riverbend landfills.

## **Location Descriptions**

*Coffin Butte Regional Landfill* is a 700-acre site north of Corvallis in Benton County, privately owned and operated by Allied Waste Industries. It accepts waste from four counties, and the facility is expected to be in operation in excess of 30 years.

*WTEF--Waste to Energy Facility*--began operation in 1986. Covanta (formerly Ogden Martin) operates the facility under contract with Marion County. The plant is designed to burn 550 tons of municipal waste per day or about 185,000 tons per year. The WTEF reduces the total volume of waste by 90 percent. Ash residue is taken to the North Marion County Disposal Facility, where it is buried in a dedicated, lined landfill cell.

By reducing landfill waste the burner reduces the greenhouse gas methane. On the WTEF website they say that there is 26 times more energy per ton captured in their process than would be available from burning methane. Reduced methane is due to fast burning at high temperatures. The 7,000-9,000 tons of waste burned per week or 550 tons burned per day produce 13 mgw (megawatt) of power. The plant uses 1.8 mgw to run and sells 11 mgw to PGE. One ton of waste burned to produce electricity prevents 1 ton of CO<sub>2</sub> emissions and saves one barrel of oil or ¼ ton of coal.

*NMDCF: North Marion County Disposal Facility* is located north of Woodburn near I-5. Built in 1987 as a landfill, it has since been converted to a recycling center and ash disposal site. Continued expansion is recommended by the consultants.

*SKRTS: Salem/Keizer Recycle and Transfer Station* is a 21-acre site off Highway 22 east of Salem that is owned and operated by Allied Waste. It has received increased use, and further increase is anticipated.

To meet the increased demand at transfer stations the following options are possible:

1. Build a new transfer station
2. Expand existing ones
3. Covanta expand its receiving and tipping areas to increase the space at the WTEF
4. Construct a transfer station at the WTEF (Covanta)
5. Covanta expand NMDCF to function as a transfer station

*Committee: Deanie Anderson, Sharon Johnson, Susann Kaltwasser, David Phelps*

# MARION COUNTY WASTE MANAGEMENT--CHAPTER 6 (JANUARY 2009)

## CHAPTER 6 SUMMARY -- Options for the Future

**Flow Control**--Flow control is a state or local government management tool that directs solid waste to designated facilities as mandated by law. Oregon law (Revised Statutes 459.125) historically granted legislated flow control to Marion County. In keeping with legal mandates, Marion County, in 1987, established a waste-to-energy facility (WTEF) with Ogden Martin Systems, later renamed Covanta Marion, Inc (Covanta). The contract with Covanta required the county to provide a minimum of 145,000 tons of solid waste each year to the WTEF. The waste is burned, reducing volume by 90%; the electricity generated is sold to Portland General Electric (PGE); and the profits are returned to Marion County with Covanta receiving a small percentage of the profits. The agreement with Covanta extends through 2014, at which time the agreement may be extended, revised, or terminated.

The WTEF will have operated for 27 years when the agreement expires in 2014. However, with regular maintenance and major component replacement, the WTEF can serve the county to 2014 and longer. Some of the repair or replacement projects provided in the last three years are: (1) adding an overlay of Inconel to superheater (boiler) tubes; (2) Replacing the bottom one third of the baghouse, the system that removes particulates from combustible gases before release into the atmosphere; and (3) Replacing the lime quench reactor, a component of the scrubber system.

Two major objectives of the WTEF are control of air quality and reducing greenhouse gases. The facility has a continuous monitoring system for carbon dioxide, nitrogen oxides, sulfur dioxide, hydrochloric acid and opacity plus radiation monitoring. During the WTEF's operating life, Covanta has never received a notice of violation from the Oregon Department of Environmental Quality (ODEQ). Covanta is aware that waste-to-energy plants contribute to carbon emissions even with extensive air handling controls. The industry is working to reduce the carbon footprint or to purchase offsets.

**WTEF ash disposal**--Marion County is responsible for transport and disposal of ash produced at the WTEF. Ash is deposited at the North Marion County Disposal Facility. This landfill facility is located three miles northwest of Woodburn and is adjacent to the former Marion County Department of Public Works shop off Crosby Road. This is the only solid waste landfill in Marion County permitted to accept ash.

Landfill disposal occurs at several sites, i.e., Coffin Butte Landfill in Benton County, about 30 miles from Salem; Riverbend Landfill in Yamhill County, also about 30 miles from Salem; and Brown's Island Landfill in Salem, which accepts only inert demolition wastes since it has no liner system.

Although Marion County has increased recycling, more solid waste is generated than the incinerator can handle. The excess is delivered to the Coffin Butte Landfill. The county's growth rate over the next 20 years will exceed its disposal capacity unless one considers expanding the WTEF, building an in-county landfill, purchasing capacity at local or regional landfills, or implementing an alternative waste disposal technology.

Based on projections, there will be a minimum of more than 1.3 million tons of waste for disposal in excess of the capacity of WTEF and Brown's Island Landfill from 2008 to 2030. The alternatives to address the county's future disposal needs are: (1) Continue use of the WTEF and send more waste

to landfills until a new technology is feasible; (2) Continue use of WTEF and expand its capacity to handle all the waste; or (3) Discontinue use of the WTEF and send all of the waste to landfills until a new technology is feasible. A best-management approach for disposal may be to combine more WTEF capacity with multiple landfill contracts and a realistic recycling rate.

**Proven technologies** include the following:

(1) Mass-burning incineration is the controlled combustion of organic or inorganic waste with more than the ideal air requirement--excess air--to assure complete burning occurs; (2) Starved-air combustion utilizes less air than conventional incineration, and it produces ash similar to a conventional incineration process; (3) The refuse-derived fuel (RDF) process shreds waste and removes ferrous metals prior to combustion. This removal allows an increase of 10 degrees in the combustion process.

**Alternative technologies for waste disposal**--Developing technologies include both thermal/chemical and biological processes.

*Thermal/chemical technologies* include using high temperatures for distillation, direct combustion, gasification and conversion to ethanol, microwave processes, and thermal decomposition.

*Biological processes* include aerobic composting (using organisms that require oxygen), anaerobic digestion (using organisms that don't require oxygen to produce methane gas, which may be used as a fuel, plus residue which may possibly be used as fertilizer), turning organic wastes into biodiesel or bioethanol (using wheat straw, wood waste, corn cobs, citrus peels--depending on the feedstocks available), vermicomposting (using worms to compost organic materials), and biological pretreatment of wastes before disposing of the residues by other means.

**Issues in technology development** include: · The performance history of the specific technology; can successful small operations be scaled up successfully? Will the system be reliable over its expected lifespan? Will the waste supply match the capacity of the system? · Environmental impacts, both local and global · Reliability of cost estimates for building the facility as well as operating and maintenance; does the contractor have the necessary capital and will it be available throughout the life of the equipment for servicing and operating assistance? Is financing available? · Siting and permitting requirements · Is the system compatible with a high level of recycling? · Community acceptance of the technology

**Committee:** Deanie Anderson, Tina Hansen, Sharon Johnson, Susann Kaltwasser, David Phelps

## **HIGHLIGHTS OF SOLID WASTE FORUM: WASTE REDUCTION & RECYCLING (JANUARY 2009)**

*Notes by Sally Hollemon* Susann Kaltwasser introduced each speaker.

**Cathie Davidson**, Oregon Department of Environmental Quality (DEQ), spoke on *Oregon DEQ Waste Reduction Strategies*. Her key points: *Recycling is up in Oregon but so is waste generation. Consumers and businesses need to develop new strategies for waste reduction.* Her presentation was put together by David Allaway of DEQ.

Ms. Davidson listed the hierarchy for solid wastes:

1. Re-use 2. Recycle 3. Compost 4. Recover energy 5. Dispose in a landfill

The first four all contain an element of waste reduction, so they help to save resources, including energy. The goal is to reduce the amount of waste generated.

In 2007 (the latest figures available for this report) the per capita waste was 8.4 pounds per day. Of that, 3.6 pounds were recycled and 4.8 pounds were disposed of as waste.

What wastes are increasing? Construction materials (wood, concrete, etc.) and consumer items (clothing and footwear, electronics, carpets).

Why are these items increasing? People build larger houses now than in the past, so more building materials are used and more stuff is purchased to go into the larger houses. Further, it is often cheaper or easier to buy a new item rather than repair an old one. So consumers should

- Buy more durable items
- Buy more recycled items
- Buy only what we need

Ms. Davidson said that, while consumers feel good about recycling items, the real savings in resources must come during the manufacture and transportation of items since the "upstream" is where the most pollution occurs and the most energy is used.

DEQ is, therefore, working to encourage

- "Green" building designs--Encourage builders to adopt waste-prevention best practices
- Change business practices--For example, much packaging is used by e-commerce retailers, so DEQ is working with them to use bags instead of boxes as much as possible since bags require fewer resources to make and transport.
- Consumers--DEQ researches why consumers do what we do in order to encourage better practices.

In addition, DEQ offers some grant money to local governments to help them implement waste reduction.

In answer to a question, Ms. Davidson said that builders are being encouraged to standardize the sizes of items so that it's possible to replace a vent fan or other appliance without having to remodel the room. In answer to another question about smoke detectors, she said they contain a hazardous substance so old ones should be mailed back to the manufacturer; the address should be on the back of each smoke detector.

**Alan Pennington**, Waste Reduction Coordinator for Marion County Environmental Services, spoke on *Recycling Efforts in Marion County*. His key points: *Marion County leads the state in the percentage of recycled materials, but more can be done. Population growth is putting pressure on existing facilities.*

Mr. Pennington began by saying that there has always been garbage; archeologist dig in garbage pits to learn how earlier people lived. In about 500 BC the city of Athens dug a big hole outside the city and required people to take their garbage and dump it there. Not much has changed since then except that dumps are now covered, garbage is picked up and transported for us, and there are regulations to reduce pollution.

In 2007 in Marion County the recovery rate was 56.5%, which is considered to be very good. Mr. Pennington showed with pictures what happens to the contents of each bin we put out at the curb--garbage, blue recycling, green recycling, and blue or red basket for glass and items which must be sorted. Used cooking oil may now be put back into its bottle and put into the basket for recycling.

The goal beginning this year, 2009, is for the total amount of waste to not increase in the future even as population increases. It is a big goal because buying stuff is part of the American model. Other countries have different models and produce less waste. Among developed countries, Japan produces half as much waste per person as does the United States.

To reach the goal of reducing waste per person requires constantly educating people. You have probably noticed the ads on buses, billboards, radio, etc. Marion County pays for a teacher to educate school children. Special efforts are made in apartment buildings since trash pickup is included in the rent so tenants aren't aware of the cost.

The County also works with businesses to help them reduce waste and save money doing so. The County's EarthWISE program is a free business environmental assistance program offered to all businesses in Marion County to get them started on recycling, reducing waste, and/or saving energy and water. Businesses that meet pre-established criteria in the EarthWISE focus areas earn the EarthWISE Certification, so consumers should look for that certification.

The County encourages the use of deconstruction teams to take old buildings apart and sell the materials for re-use (rather than to demolish old buildings and send the materials to the dump).

Residents of Marion County are fortunate that the county transfer station on Highway 22 east of Salem will accept all electronics. For styrofoam, hazardous materials, or unusual item you can check the county's website at <http://www.co.marion.or.us/PW/ES/disposal>, click on "Find out how to dispose/recycle a specific material," type in the name of the item, and the website will show you where to take it for disposal.

**John Matthews**, Garten Services, spoke on *Creating Jobs and Saving Resources through Recycling*. His key points: *Garten has been recognized as a leader in recycling since the recycling industry first began to move mainstream in the 1970s.*

Mr. Matthews said that less energy is needed to refine the materials from recycled products such as paper, glass, and metal, so businesses could save money by using recycled materials. This allowed Garten to develop a business of recycling. Unfortunately, with the economy now in recession, there is less demand for most recycled products.

Restaurants and other commercial sources of food wastes may soon be able to recycle food items; they must be recycled properly to prevent meat from drawing vermin. Along with other plant materials, these are composted and turned into new dirt.

Agriplas is a local company that has a new process being evaluated to take small plastic items (such as bottlecaps) and mixed plastics to separate them out and send the various plastics to where they can be recycled instead of going into the trash as at present. If all goes well, Agriplas will expand their process to a commercial level.

"Product stewardship" is the new standard for electronics. This means that manufacturers pay the cost of all the materials that are recovered and reuse them in approved ways so that the discarded electronics are not sent to poor countries where people take out the valuable metals and burn the rest, with the accompanying toxic air pollution. By having manufacturers responsible for the costs of recycling electronics, they are encouraged to use fewer hazardous materials and make them easier to recover by making their products easier to take apart.

Electronics of all kinds--televisions, computers, peripherals, cell phones--are accepted at the Salem-Keizer Recycle and Transfer Station (SKRTS) on Highway 22 east of Salem. These are taken to Garten's facility in north Salem where workers safely repair, sort or disassemble each item. All information on electronic devices is removed at Garten before the item is sold for reuse or for reformulation into another product.

Garten Services invites people who are interested to attend its First Friday Breakfast, a free continental breakfast and site tour held from 7:30 to 9:00 a.m. First Friday Breakfasts will be held on March 6, April 3, May 1, June 5, August 7, September 11, October 2, and November 6. Reservations are required; contact Carolyn Bolton at 503-581-4472, Ext. 3117, or by e-mail at [cbolton@garten.org](mailto:cbolton@garten.org).

In answer to a question about the feasibility of weighing trashcans at pickup in order to charge people for the garbage they set out, Mr. Matthews said that it's difficult to weigh accurately on the street, and there are governmental requirements for the accuracy of weights. However, since trash containers come in several sizes with the smaller ones costing less per month than larger ones, people are charged for the amount of trash they put out. He went on to say that there is a limit to how much can be charged for picking up someone's trash before they will decide to do something that is more damaging to the environment, such as burning the trash in their fireplace or throwing out in the woods or along a road.

Mr. Matthews said that less garbage is thrown out during poor economic times (such as now). We need to take advantage of this phenomenon to show people that they can save money by not throwing away as much stuff, perhaps by using it longer or not buying it in the first place. Newspapers are smaller than they used to be with less paper used for advertisements resulting in a reduction in the amount of newspaper recycled.

To see the whole forum on CCTV, check the website at <http://www.cctvsalem.org>. Point to "Programs" and click on "Schedule." In the list of programs on the left of the screen, look for this program on Solid Waste.

## **VISIT TO GARTEN SERVICES RECYCLING FACILITY (APRIL 2008)**

*Notes by Sally Hollemon*

When the League group arrived at Garten Services for our tour, we learned that we were visiting on their birthday. Garten was founded on Earth Day, April 22, thirty-eight years ago, so, led by Rose Lewis, we all joined in to sing *Happy Birthday to Garten*.

Garten Services (originally Garten Foundation) was inspired by Sally Gearhart, who believed that people with disabilities could learn to be productive employees in the community. John Mathews, Sustainability Coordinator, said that the three parts of Garten's mission are social equity, recycling, and sustainability. He defined sustainability as: *Meeting our needs today without compromising the ability of future generations to meet theirs*.

Seventy-five percent of the staff (not counting office workers) must be disabled in some way. Some governmental funding is available for training them, but the company has to earn enough money to sustain itself. On the day we visited, Garten Services would receive the Marion County Earthwise Certification.

Garten has three facilities in Marion County, one in Dallas, and one in Eugene. Don Carmichael showed a video about Garten's businesses, which include recycling paper, shredding sensitive documents, packaging and mail services, landscaping, diaper service, recycling electronics, and putting disabled people to work in community businesses (such as janitorial work and food services), and activities for seniors with disabilities.

Mr. Carmichael said that materials collected in blue bins from homes and small businesses go first to Hillsboro for mechanical sorting. The paper is then brought to Garten for hand sorting by color; this provides safe jobs for disabled people. The whitest paper, which requires the least bleaching, is the most valuable for making recycled paper. Paper shredded for security reasons is shredded extremely small, then taken by locked trucks to Halsey where it is dumped into a slurry for re-manufacture. A "guillotine" cuts the backs off books; the covers and backs are "grayboard" like cereal boxes. Paper for recycling goes wherever it can be sold, but most goes somewhere in the Northwest. Mr. Carmichael commented that, due to electronic communication, while we don't have a paperless society, we are using less paper in spite of increased population.

Plastics are compressed, baled, and sold. Plastic bags taken to the grocery store are recycled as plastic film. However, plastic bags should not be put into the blue recycling bins because they clog the machinery that does the preliminary sorting. Cornstarch is beginning to be made into plastic items, such as bags and cutlery, which will decompose quickly after use.

Garten receives computers from businesses and individuals at the Transfer Station east of Salem. Computers with Pentium 3 or 4 processors can be refurbished, so Garten technicians wipe the hard drives clean and load on new programs before the computers are sold. Older computers are dismantled by Garten employees and the components separated into large boxes--keyboards; mice; wide, flat wires; thin wires, thick wires, etc.--for re-use or disassembly. CRT computer screens are made so that the pointed glass at the back can be broken off, which creates a vacuum that sucks the gases down to the bottom (the back of the screen). Screens are then shipped safely to a company that can recover the gases. Plastic computer cases that have been compressed and baled, as well as metals, are sold to companies that melt these down for re-manufacture.

In this one Garten facility 2500 tons of materials are recycled each month (in 2008).

Most disabled employees work an overlapping 5-hour shift and are paid \$2.50 to \$12 per hour based on how much average time it takes each employee to do their specific job. (Disabled workers are not covered by minimum-wage laws.) Staff members are not highly paid, and the director of Garten makes less than \$100,000 per year. Staff members are trained to handle medical and behavioral issues.

## **UNIT MEETING REPORT ON INTEGRATED WASTE MANAGEMENT (MARCH 2008)**

*Notes by Sally Hollemon*

Marion County's solid waste contracts will be coming up in a few years, and discussion of them is beginning at the county level. LWVMPC must be ready to provide input.

### **Reducing packaging and consumption**

Reducing packaging and consumption will reduce the amount of energy needed to manufacture and transport products as well as reduce the amount of solid waste. A variety of books on reducing solid

waste is available. An especially useful booklet is Waste Reduction and Disposal User Guide available from Marion County by calling 503-588-5169 or on the web at <http://publicworks.co.marion.or.us/recycle>.

### **Current League positions have some holes**

The League has good positions on solid waste at the national, state and local levels. [ Our local study is looking at the following part of our local position to determine if changes are needed:

*There is a role for both landfills and incineration in an integrated solid waste management system. Incineration should be the primary method of disposal if:*

*Materials found to contribute to the formation of dioxins and the release of heavy metals are removed before incineration and disposed of in a landfill; and*

*Fly ash is tested separately for pollutants and disposed of as required by test results.*

*Scientific research on the toxic effects of waste disposal should continue. Toxicity testing of leachate, ash, and air emissions should be impartial, random, and frequent. Local pollution control standards may need to exceed EPA standards to gain public confidence that disposal impacts do not harm public health or the environment.*

Areas to consider during the next year of our study:

- What new technology is available?
- Is incineration still the best technology?
- Has incineration caused accumulated toxins in the environment of the burner?
- Is testing for toxins frequent enough to identify possible problems?
- Who is accountable for the safety and efficiency of the county solid waste system?
- Are there useful solid-waste byproducts?

### **Electronic waste (E-waste)**

The Oregon legislature passed a law to require each county to have a recycling program for E-waste because, for example, near Fall City and near Marion Forks E-waste is dumped in the forest. The state law covers only a few electronics, but Marion County has decided to receive all electronics at the Transfer Station east of Salem off Highway 22. Due to concern about information on computer hard drives, the Transfer Station is arranged so that the public cannot reach the computers that have been discarded there.

The discarded electronics are taken to Garten where employees wipe the hard drives clean and take the computers apart. Metals in the computers can be recycled, and useable parts are sent to Chemeketa Community College for students to use in rebuilding computers as part of their training. A problem is that Garten employees need special skills to do this work, but pay is low, so it's hard to get enough workers.

Marion County gets lots of calls about its E-waste recycling program from all over the U.S. because it is one of only a few counties that accepts all E-waste.

Polk County, on the other hand, is way behind Marion County in solid waste disposal and doesn't even have a solid waste advisory commission, which is required by law. What is recycled in Polk County depends upon which garbage hauler picks up the trash on a specific street.

## Learn from others

There is a wide variety in how E-waste and other solid waste is handled. In Glendale, CA, for example, a person can arrange by phone to have any kind of trash picked up free (including carpet, old furniture, tires). When a service is free, it is more likely to be used. Of course, the service must be paid for by taxes or other means. Where E-waste isn't handled locally, it is shipped to countries that will take it and dump it. This, of course, shifts the environmental and human risks to poor countries.

## Some questions

The contract for the incinerator in Marion County will expire in 2014. Should a new or larger incinerator be built? The Solid Waste Management Advisory Commission (SWMAC) is holding public meetings with presentations by a consultant. SWMAC meetings are held on the 3rd Tuesday of each month in the County Commissioners' Hearings Room in the county office building by the bus depot in downtown Salem.

Alternatives to consider for the future as Marion County's population continues to grow:

- Build a second or a larger incinerator.
- Landfill all the trash or only the incinerator ash as at present.
- Consider new technology, such as
- Large prisms in sun evaporate all the liquid out of the waste leaving only ash.
- Develop uses for ash from incineration (but not spreading it on roads, as is done near Hermiston).
- How can waste be reduced?
- How can recycling be increased?
- Is the current rate structure adequate to maintain fair and equitable rates and fiscal stability?

## How can we reduce solid waste?

We can exert pressure on manufacturers to reduce packaging. Processed food is a large source of the materials in our waste stream. Some individual drinks have packaging that is not easily recycled. Instead of buying single-serving packages, buy larger quantities and repackage at home in re-usable containers, such as butter containers. (Be sure to use food-grade plastic containers; #2 plastic is the best.) You also save money by doing this; 100-calorie portions of snacks cost 3-4 times as much as the regular sizes of these snacks. Instead of buying individual frozen dinners, making dinners at home saves money and packaging as well as transportation. For every pound of waste you generate, up to 70 pounds of waste could have been generated before it got to you.

Think of ways to reuse packaging:

- Use bread bags in place of Baggies
- Wash and reuse freezer bags.
- Use butter and yogurt containers for storage or to take food home from a restaurant.
- Take your own washable cup to any coffee shop.
- Buy large refills instead of new pump spray items.
- Look at every object for a second use before you toss it in the trash.

Other suggestions to reduce waste:

- Use sponges, rags and cloth towels instead of paper towels whenever possible.
- Buy concentrated products, such as detergents.
- If your favorite brands have excessive packaging, contact the manufacturers and express your concern about reducing waste and conserving natural resources.
- Carry a canvas or net tote bag when you shop.
- Buy products that are durable, well made and repairable. (Read consumer magazines at the library.)
- Reduce toxic waste by purchasing paints, pesticides and other hazardous materials only in the quantities needed (or share leftovers).
- Use plug-in appliances instead of those that operate on batteries.
- Use an electric shaver or a quality razor with replaceable blades.
- Bar soap generates less packaging waste and is less expensive than liquid soap in plastic bottles with pump dispensers.
- Use carpools or public transit.

## **Trends in business**

Today many businesses are "going green." For example, Wal-Mart has released its goals for sustainability which include:

- to be supplied 100 percent by renewable energy,
- to create zero waste, and
- to sell products that sustain our resources and the environment.
- Major car companies such as General Motors and Toyota are exploring the use of alternative fuels, such as hydrogen and solar cells, to power cars and marketing hybrid cars as a means to reduce pollution.

Other good trends include

- Concentrating products so you need less to do the job (and avoid shipping water)
- Using less packaging or making packaging from recycled materials
- Making packaging lighter in weight to cut down on shipping, materials and bulk
- Designing for solar energy or natural lighting in offices and stores
- Building recycling into products so that materials can be recycled easily; cars are now almost completely recycled Recycling office supplies.
- Recycling office supplies.

Some bad trends are

- Claiming to be "green" when the product really isn't
- Claims that hold hidden trade-offs, that don't tell the whole story
- Claims with no proof to back up their assertions
- Claims that are so vague that consumers are likely to misunderstand
- Claims that are irrelevant to the products
- Claims that are technically true but distract consumers from a product's real problems
- Claims that misuse or misrepresent certification by an independent authority.

Two professors at the University of Oregon have created a Green Washing Index to help consumers sort products that claim to be green from products that are truly green. It's on the Web at <http://www.greenwashingindex.com>.

Co-op American provides a variety of tools to help consumers find true green products. In addition to articles about recycling and environmental issues, the site offers a state-by-state directory of green businesses known as the National Green Pages. This can be found at <http://www.coopamerica.org/pubs/greenpages/index.cfm>.

### **Be complimentary**

If you find a company doing something you like, tell someone at the company. For example, a recycled item may cost more than a new one, so let an employee know that you appreciate the company's effort.

### **Committee:**

The LWV committee is composed of Deanie Anderson, chair; David Phelps; Tina Hansen; and Susan Kaltwasser.