Glass Recycling Manual

Glass Packaging Institute

Table of Contents

I. THE VALUE OF GLASS

II. RECYCLING GLASS: THE HOW'S AND WHY'S

III. CREATING A RECYCLING PROGRAM

IV. THE PARTICIPATION FRAMEWORK

V. WORKING WITH RECYCLERS

VI. SHIPPING TO GLASS PLANTS

VII. CULLET SPECIFICATION

VIII. PROMOTION MATERIALS

IX. REACHING THE PUBLIC THROUGH ADVERTISING & PUBLICITY

X. LAUNCHING A NEW RECYCLING PROGRAM

XI. RECYCLING DAY (R DAY)

XII. STATE NEWSLETTERS
XIII.
GLASS CONTAINERS AND GLASS PLANTS

XIV.
FACTS ABOUT GLASS AND GLASS RECYCLING
I.
THE VALUE OF GLASS

People prefer glass. For the taste, purity, convenience and protection it offers, glass has always been the preferred packaging product of the American consumer.

Just take a look around and see all the items that come packaged in glass...an enormously wide array of foods and flavorings, a varied assortment of beverages, cosmetics and lotions, medicines and vitamins, cleaning aids and more, many more.

The list of items packaged in glass is so long and so varied that, on the average, each American uses 170 glass bottles and jars per year.

As if the slogan "good things come in glass packages" is not enough, there is yet another reason to purchase items packaged in glass.

Glass is 100% recyclable.

All bottles and jars easily can be made into new ones, without the environmental or economic burden of waste by-products. What's more, the nation's glass industry is steadfast in its resolve to make certain existing glass bottles and jars fall back into the recycling process...that's why the industry has extensive glass recycling programs under way in many states and plans to put more in place.

The glass industry recognizes what many are just beginning to see; recycling glass can be a profitable commodity for businesses and the public alike.

A renewed enthusiasm for recycling, brought about both by economic and environmental concerns, is crossing the nation. More than ever, it is possible to derive marked success from setting in place a well-planned, well-run glass recycling program, not the least of which is increasing the recycling of other products in the process.

There is new value in glass; just one more reason why glass packaged products are the American consumer's number one choice.
The Why's

The argument for glass recycling is an easy one to make. Rather than burying glass containers in a landfill, recycling offers the opportunity to: conserve our national resources, save energy, reduce solid waste and litter and earn money. In short, glass recycling means benefits for your community.

Resource Conservation

The three major natural ingredients used to make glass are sand, soda ash and limestone. Even though these resources are available in abundant supply, waste is not necessary.

As a nation, we've had a good deal of experience with dwindling natural resources. The glass industry believes that by acting now to conserve these vital elements, we can avoid needless waste and protect the current supply. Due to recycling efforts, glass manufacturers are drawing less and less on natural resources.

The commitment to and practice of recycling will continue---with your help.

Energy

It takes far less energy to melt reclaimed glass than sand, soda ash and limestone; each ton of recycled glass saves the equivalent of nine gallons of fuel oil. With every 100,000 tons of recycled glass, 1,000,000 gallons of oil are saved---and it takes only 4,000 glass bottles and jars to make one ton.

Reducing the amount of oil necessary to heat and thus produce glass containers is just one more means of conserving a natural resource.

There are additional benefits in using less energy; lower furnace temperatures reduce air emissions and extend furnace life.

Solid Waste

Limited landfill space is a problem many communities now face or will have to contend with in the near future. Therefore, any action that reduces the volume of materials being buried is welcome.

Glass containers of all kinds represent 9.2% of total solid waste in terms of net weight. While recycling glass will help with a part of the problem, it will not solve it alone.
The New York garbage barge traveling up and down the East Coast with no place to go has dramatized and brought to the forefront the urgent problem of waste disposal.

However, experience shows that glass recycling sets off a chain reaction of sorts. When people learn glass containers are 100% recyclable, awareness of the recyclability of other products grows as well. Programs are thus expanded to accommodate the increasing amount of recycled products.

The final result is rising volume for all recycling, with a significantly lower volume of waste going to landfill.

Litter

It is possible to categorize litter in America into five material groups: paper, plastic, metal, glass and miscellaneous.

And, just as in the case of solid waste, glass containers represent a relatively small percentage of total litter. But, however small the percentage, reducing glass bottles and jars in the litter stream remains a top industry priority.

There is evidence to prove that communities with successful glass recycling programs witness a reduction in glass bottles among litter. Moreover, successful glass recycling programs appear to breed successful can and paper recycling efforts, with the effect of significant reductions in overall litter.

Earning Money

Glass is a profitable commodity. With the prices currently paid by companies in the glass industry, recycling is a profitable endeavor for businesses and a profitable exercise for local organizations and groups with fundraising efforts high on the agenda.

Communities across the country are demonstrating that there is money to be made in collecting glass bottles and jars for recycling and, in addition, can save on landfill costs and tipping fees.

With all the talk of saving money, energy and natural resources, what many people forget to point out is that recycling is a satisfying, worthwhile endeavor.

There is a good, personal feeling that comes with being part of a positive, constructive effort.

Recycling is a growing crusade. And, with each passing day, more Americans are experiencing the satisfaction that comes from joining in the effort.
The How's

Quality Standards

Plants involved in manufacturing glass containers have found that increasing the percentage of cullet (or recycled glass) in the production process reduces the need for raw materials, saves energy and maintenance, and cuts environmental pollution.

Without the proper procedures, however, major problems can arise through the use of cullet containing foreign or "tramp" materials. For this reason, glass plants have set certain quality standards of which recyclers and program participants must be aware.

The contaminants glass plants fear most include:

* Metals such as aluminum caps, steel lids (check with the plant for removal capabilities), lead bottle collars and light bulb filaments.

* Ceramics such as cups, dishes, porcelain fixtures and ovenware.

* Stone and dirt (gravel).

* Plate or window glass (again, check with the plant).

* Heat-resistant glass, such as Pyrex.

* Lead-based glass, such as crystal or television tubes.

* Specialty glasses, such as those from laboratories.

All of these items can cause serious damage to the plant furnace or produce a final product of poor quality.

Color Separation

Separating glass containers by color is extremely important. The plant will advise whether it requires two or three-color separation.

When purchasing a glass product, consumers are usually uncomfortable with differences in coloring. In addition, some consumers prefer glass products in flint (or clear) glass while others express a preference for brown or green glass.

The important point to remember is that mixed colors are not permitted.

Plants just do not have the capability for automatically separating bottles and jars by color; therefore, the only method
that makes sense (and saves time and money) is for containers to arrive already separated.

Color separation must be done by the collector, at the time of collection.
III.
CREATING A RECYCLING PROGRAM

Community groups with an environmental objective can be found in nearly every locale. And, within these existing groups, are the individuals who can provide the leadership skills necessary to organize and implement a local recycling program.

Below is a brief description of the community groups with a natural interest in recycling.

Clean Community Committees/Commissions

Communities across the country have established groups, usually with staff coordinators, whose goal is to work toward town improvement. Often, litter control is the primary target, while solid waste management, town beautification and other related endeavors also play a role.

Recycling fits perfectly into these efforts. Glass recycling programs already in place are demonstrating just how productive they can be in reaching these community resources.

Environmental Committees/Commissions

Community groups pursuing environmental improvement inevitably place solid waste management at the top of the list of concerns. This is particularly true where landfill space is in short supply, or will be in the future.

Here, again, glass recycling fits perfectly into the picture.

Special Recycling Committees

In communities where landfill space is already at a premium, a good case can be made for creating a committee whose sole responsibility is to push for full-scale recycling. Examples include a specially-appointed committee of the local chamber of commerce or an officially-appointed municipal body.

Many communities have adopted programs in which glass and other recyclables are placed curbside for collection, as well as other such novel approaches. The overall objective: to promote recycling in your community.
IV.
THE PARTICIPATION FRAMEWORK

Who participates in a glass recycling program?

Communities with successful recycling programs already in place are the best place to look for insights. Existing programs also can offer valuable information on planning and implementing your own recycling program.

Experienced programs tell us that in order to attract a large volume of glass, a new recycling program must focus upon a combination of five categories of suppliers:

Basic Sources

This category of potential suppliers consists of bars, restaurants, hotels, clubs and other establishments where glass containers (as well as other recyclable materials) are used. These places may sell or give the bottles and jars directly to a professional recycler, if the recycler operates his own collection routes. Or, these sources can make them available to an individual, who collects material on his own and then sells to a recycler.

Collectors (also called "scavengers")

These individuals develop and maintain regular routes for collecting recyclable materials from the basic sources. They will also pick up materials along roadsides and highways. Normally, this type of collector accounts for a large percentage of the glass processed for recycling.

Doing it for the money

a. In this category, there are local organizations that raise funds by staging glass collection drives. The drives may be one-time special projects or year-round activities; and

b. there are individuals and families who wish to earn some extra money by saving bottles and jars for the recycler. Some families use recycling as a means of teaching children about work, the value of saving vs. spending money.

Doing it because you believe

Money is not the motivation here. These people participate in recycling because it is "the right thing" to do and it makes them feel good. Believers will go out of their way to bring bottles and jars to drop-off centers, the recycler or save them for a collector.
Doing it for convenience

There are many people who respond to recycling for just one reason: it's made easy for them. If a buy-back or drop-off center is close by, they will participate. It helps even more if the program they participate in contributes money to a favorite charity. A government-sponsored, curbside program fits this category of participant best. Simply put, the better organized and easier the recycling program, the higher the degree of participation.

The non-participant

Frankly, there are those people who won't participate at all. Whatever the reasons---apathy, indifference, a "can't be bothered" attitude---these non-participants choose to stay on the sidelines. But, don't be concerned or discouraged. There remains plenty of potential participants in the five categories just listed.

Convenient Drop-Offs

As previously noted, one of the most common---and obvious---reasons given for participating in a recycling program is ease from the standpoint of convenient locations. Since there are enough of these kinds of people to justify accommodation, convenient drop-off locations are an important factor to consider.

It is also important to consider that convenience helps the others who participate in recycling programs, even if for different reasons.

And, it does follow that the more locations available for glass recycling, the greater the response and the higher the volume of glass recycled.

Thus, the primary objective becomes placing drop-off centers in easy-access, practical locations.

Community Organizations

Organizations with a recycling interest often come equipped with social centers, educational and/or recreational facilities, or other physical locations at which people regularly gather; these locations are naturals for adopting glass collection as a fundraiser.

The following is just a partial list of possible groups with such locations:
YMCA's/YWCA's
Boys' clubs
Church organizations
Fraternal lodges
Telephone Pioneers
County agents
Home Extension Service

These groups have three key factors on their side:

1. Physical locations at which collection units can be placed;

2. Personnel and/or members who can supervise the units to make sure they are well-maintained; and

3. Members who can be motivated to bring their glass bottles and jars when meeting, gathering and joining in other pursuits.

The collection units can be 55-gallon drums, barrels or wooden bins constructed by members. They can be attractively painted to help identify recepticles for the different colors of separated glass: clear, amber and green.

Transporting the glass from the community organization's location to the actual processor must be worked out between the two parties involved.

Most experts recommend a flexible payment system for recyclers in connection with drop-off centers. This would mean paying different prices under three sets of circumstances:

1. When the glass is brought to the recycler's own facility by members of the organization;

2. When suitable collection containers are set up by an organization at its own location and serviced by the recycler; and

3. When the recycler provides collection containers and also services them.

Public Service Organizations

The following six organizations, in particular, are ideal for setting up and maintaining collections drop-off points at their facilities:

* The Salvation Army
* Sheltered Workshops
* Goodwill Industries
* Boy Scouts
* Girl Scouts
* Schools
As respected organizations whose funds go towards recognized community service, these six groups are able to draw response for an activity that helps augment those "good service" funds.

The same observations made previously with respect to types of collection units and payments by a processor apply here.

**Fire Stations**

Historically, untold numbers of fire stations throughout the nation have served as collection points for newspapers to be recycled. In recent times, many have added aluminum cans. Volunteer fire departments have been particularly active because they often have to get their own funding for new equipment.

Fire departments, therefore, should be included on any list of desirable locations for dropping off glass bottles and jars, especially where they already are receiving paper and/or aluminum cans. The same people who bring in the other recyclables can then add glass to what they contribute.

Once again, prior observations on collection units and payments by processors are applicable.

**Commercial Enterprises**

While there are many commercial businesses who may be receptive to the idea, two types warrant special consideration as potential drop-off locales.

Supermarkets are one; they obviously fit the bill for convenience. Supermarkets have frequent and high patronage that can account for volume drop-off of glass bottles and jars for a designated charity or other good cause. They may also have trucks backhauling to warehouses at which a processor can pick up the collected glass. They also can make arrangements with a local recycler or scrap dealer.

The 55 gallon drums previously mentioned in this chapter are highly suited to use at the fronts of these stores.

Industrial establishments are the second commercial category which merits attention.

Providing drop-off containers for employees of such firms can be productive. Aside from having suitable space for locating drop-off units immediate access to large numbers of employees is a big plus. Furthermore, many have trucks that can transport the collected glass to a processor.

In every respect, industrial firms have great potential for producing a constant flow of tonnage.
Another Way

Drop-off centers need not be limited to commercial enterprises or community organizations with ample physical premises. They, along with other local organizations and service clubs, can sponsor collection drives using such central sites as:

- Shopping Centers
- Schools
- Playgrounds
- Parks
- Public Squares

Saturday or week-end events can be staged periodically to accommodate any organization's collection drive. Or, if supervision is available, they can be staged on a regular basis.

Essential, however, to any successful recycling effort of this type is a processor who will provide collection units and hauling of the collected glass to the recycling facility.

The Essentials

The following four components can combine to build the foundation of a successful glass recycling program:

1. A facility buying, crushing (not always necessary) and shipping color-separated glass in a form to meet glass plants' specifications.

2. All basic sources in the community supplying glass directly to the recycling facility or to collectors who, in turn, take the glass to the recycler.

3. Joint efforts by recyclers and community groups to provide convenient drop-off centers where people can easily contribute bottles and jars for civic, charitable or other desirable purposes.

4. An aware public, continuously reminded:
   - all glass bottles and jars are 100% recyclable
   - the reasons recycling is so important
   - where glass bottles and jars can be taken for recycling, both for monetary (the buy-back recycling facility) and charitable (civic-sponsored drop-off centers) gain.
V.
WORKING WITH RECYCLERS

To get the most out of your recycling program, it is very important to have good relations in dealing with recyclers. The following chapter breaks down into steps the proper approach.

Preparation

Spend some time doing a bit of research before you make any visits to recyclers. For instance, a list of potential recyclers can be compiled by researching the following categories:

- Scrap Iron & Metal Dealers
- Junk Yards
- Waste Paper Dealers
- Recyclers buying aluminum cans
- Workshops for the mentally and physically handicapped
- Boy Scout and Girl Scout Troops
- Beer and Beverage Distributors

Approach potential recyclers without an appointment. Generally, showing up in person gives the opportunity to present all the advantages of glass recycling without being turned away.

When a prospect asks, "Why recycling?", give reasons such as the availability of glass in the local area; the advantages of multi-material, one-stop recycling; the stability of glass prices as compared to metal and the argument of small vs. large ton (2000 lbs. - glass vs. 2240 lbs - metal).

Point out glass is a material that does not lose weight due to oxidation, so the weight shipped is actual. In the case of metals, weight can be reduced due to moisture and, in most cases, is reduced at the receiving plant.

Other arguments favoring glass recycling include:

- glass recycling will increase other materials handled.
- glass recycling will show a positive return.
- interest-free loans for glass crushers (in some locales)
- industry programs promoting recycling (in some locales)
- availability of glass recycling presentations in the community (in some locales)
When a recycler contacts you to find out more about glass recycling, make an appointment. Again, prepare yourself prior to the scheduled visit in order to gain the advantage.

Know the materials currently being handled by the recycler; estimate the volume of materials the recycler is handling; find out the hours of operation; research the population of the area where the recycler is located and, ask yourself, why is the recycler interested in handling glass?
VI.
SHIPPING TO GLASS PLANTS

Backhauling glass containers can make transporting cullet to glass plants economically feasible for recyclers.

In most cases, the handling of glass container shipments will require the recycler to obtain operating authority and to publish rates. On interstate shipments, operating authority is issued by the Interstate Commerce Commission (ICC), a branch of the federal government, while on intrastate shipments, authority is issued by the Public Utilities Commission, a branch of the state government.

There are no exceptions to these requirements. Both the glass company and an offending recycler can be subject to federal and/or state penalties.

The proper equipment is also essential for the safe transportation of glass containers. Plant transportation representatives can provide you with guidelines.

Operating authority through the ICC can take upwards of six months to obtain, at a cost of $350. The time requirements and costs to obtain state operating authority will vary by state.

These are somewhat complicated and involved procedures. Therefore, it would be wise for those interested in backhauling glass containers to contact the transportation chief of the glass company involved in order to receive direct guidance.

Be advised that if the company or person involved in transporting cullet to the plants is different from those who own the cullet (the actual recycler), those on the transportation side are also required to have operating authority and publish rates for the transportation of cullet---on most intrastate shipments.

Cullet is deregulated on an interstate basis. This means operating authority and publication of rates are not required on cullet shipments, when they cross state lines.

Some of the haulers who handle glass containers may be able to backhaul cullet to the glass plant.

Each recycler will have to work the above suggestions out with the individual company plants to which they are selling.

Other ideas may be developed in discussions between the plant and recycler.
VII.
CULLET SPECIFICATION

This chapter describes suggested specifications for limits of non-glass material for incoming cullet fed into the cullet processing system as well as for processed cullet representing product cullet from the cullet processing system ready for uses in furnaces.

These specifications represent suggested guidelines for allowable contamination and percentage of cullet usage and also provide limits for rejection of cullet when unsatisfactory for usage at any cullet level. These may vary from one glass plant to another.

Engineering experts recommend the following monitoring procedure for all plants to evaluate the quality of incoming and processed cullet.

1. Daily check of incoming cullet quality from each source of supply for ceramic particles as well as aluminum and other non-ferrous metal particles.

2. Daily check of processed cullet for aluminum metal and foil, magnetic metal, organic material, stones and other glass contamination.

3. Evaluate for refractory particles if gross stones are found in either steps one or two, or for sudden production losses due to stone occurrence without definition as a batch or furnace source.

Incoming Cullet Evaluation

Sampling and Testing Procedures: Obtain a representative sample of approximately 50 pounds (about 1/2 cubic foot or four gallons). Record the weight of starting sample.

Screen cullet on 1/4" and 8 mesh screens. If cullet is not dry, it must be washed through the screens. Examine +1/4" and -1/4" +8 mesh fractions for non-glass particles. Save -8 mesh fraction if a detailed evaluation of the refractory contaminants is desired.

Evaluation of Non-Glass Particles in +1/4" and -1/4" +8 Mesh Fractions: Count the pieces of ceramic; count the pieces of aluminum and non-ferrous metals small than screen opening in cullet process system; and hand pick the stones and other inorganic particles and submit to a laboratory for evaluation—-if it cannot be established that the material is non-refractory.
Evaluation of Refractory Particles in -8 Mesh Fraction: Dry -8 mesh fraction, or at least drain dry, and submit total sample to a laboratory for evaluation.
VIII.
PROMOTION MATERIALS

Promotion Materials and Advertising

Recyclers have materials available to them. It is essential, however, that they be limited to quantities offering assurance of actually being used productively (this does depend upon company and whether an industry program exists in the state).

Program representatives can be helpful in furnishing guidance on avenues of distribution that do hold the best potential for making impact. They can draw on the experiences of other recyclers in this regard.

Forms

The following forms may be used in the process of signing up a recycler for the program (depending upon the state program).

They will ensure commitment to the program and make it possible to track materials and costs.

1. Letter of Agreement Public Buy-Back Centers.
   The blank spaces are for the program representative to fill out with the plant address and contact person.

2. Recycler-Sign Up Check List.
   This form used to track materials given to recycler to promote glass recycling.

3. Program Promotional Materials Request Form.
   This form to be used by the program representative to insure all materials of the program are used as fully as possible.

   The program representative should track advertising dollars spent by recycler and not allow them to exceed budget.

   Copies of form should be given to the recycler to used as guideline.

4. Recycler Business Analysis.
   This form to be used as a follow-up and planning analysis for the program representative and recycler to increase tonnage and visibility in the community.

5. Action Programs.
   This form should be used to get the recycler committed to define objectives and action programs and assign responsibility for completion.
Typical Materials

1. Flyers
   a. Names, locations, and hours of operation printed locally
2. Posters
   a. Names, locations, and hours of operation to be hand
      lettered, stenciled or printed locally
3. Location Signs
   a. Fiberglass 3' x 4' RECYCLE YOUR GLASS HERE
4. Billboards
   a. Standard 30 sheet billboards
5. Radio & T.V. ads
6. Newspaper Advertising

In many states, individual glass container manufacturers provide
advertising and financial support to recyclers. These programs
vary, but frequently include matching advertising funds,
financial support for billboards, and public service
announcements and newspaper ads. Contact the individual companies
for details as to the programs they offer.
RECYCLER --- SIGN UP CHECK LIST

STATE:

NAME:
LOCATION:

CONTACT PERSON:

WANTS TO BE PART OF THE RECYCLING PROGRAM? Yes No

NEEDS CRUSHER? Yes No

NEEDS GAYLORDS? Yes No

WILLING TO MATCH UP TO $500 FOR ADVERTISING? Yes No

MATERIALS:

<table>
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<tr>
<td>Flyers</td>
<td></td>
</tr>
<tr>
<td>Billboard</td>
<td></td>
</tr>
</tbody>
</table>

DATE:

RECYCLER:

PROGRAM REPRESENTATIVE:
Company representatives can be valuable resources in providing guidance and information that will help recyclers to operate successfully. The following are examples:

1. Shipping to glass plants.
   Requirements regarding condition of the glass.
   Most economical methods of shipping.
   Options and rates that are available for backhauling.
   Other possibilities that come into view.

2. Crushers.
   Two well-established manufacturers are CP and REMGRO.
   Means of preventing/overcoming mechanical difficulties.
   Suggestions for most efficient operation.

4. Collection Containers.
   Types most suitable for particular purposes and situations; costs.
   Equipment needed with different types; costs.

5. Record-keeping systems.
   For center to identify quantity and locations.
   For quantities collected and picked up at off-the-premise locations.
   For quantities brought in by organization members for fundraising purposes.

6. Promotional and advertising help.
IX.
REACHING THE PUBLIC THROUGH ADVERTISING AND PUBLICITY

Logic suggests, and experience bears out, that the more people read and hear about glass recycling in their communities, the more widespread their participation will become.

Therefore, it is extremely desirable to have as much continuous exposure as possible in the local media.

This chapter covers the activities and materials necessary to produce successful and effective advertising, essential to any recycling effort.

At the outset of any glass recycling program, three assumptions can, and must, be made:

1. Your audience is not aware that glass containers are 100% recyclable;

2. Your audience is not likely to be conscious of the extent to which they use glass bottles and jars---all recyclable items---in their home; and

3. Your audience does not know there is a market for all these glass containers; that they can make money or contribute them for a charitable purpose.

Keeping the aforementioned assumptions in mind, two primary factors must play a key role in any promotion:

1. Creating and building the awareness that glass containers are 100% recyclable and consciousness of the wide range of household items that apply.

2. Telling and reminding how and why these items can be recycled; for money at a buy-back facility, or for charitable and other good purposes at drop-off centers.

These factors will make a tremendous impact, if played upon regularly. An old publicity adage holds here: repetition is reputation. Even when people know what they need to know about recycling, constant reminders are necessary...and the more, the better.

There are benefits in going to the media at the very beginning of a recycling campaign and filling them in on the program. They will appreciate the courtesy and probably be more interested. Important note: The background information received will be valuable in determining how best they will cooperate.
Advertising

Advertising is only as limited as the ideas you have; however, there are several time-tested methods of reaching the public.

Newspaper: To make use of newspaper ads, simply contact your local paper; the most common type of newspaper ad is a "display" one. The advertising sales representative can help select a day of the week (if the newspaper is daily), then suggest a position in the paper to reach the greatest number of potential prospects. Give the newspaper representative your name, phone number and address. The newspaper will set the type for your imprint of the display ad (there should not be a charge for this service).

You might also consider running a "classified" line ad from time to time. Discuss this possibility with the newspaper rep as well, remembering to figure it into your budget figures.

Another alternative is running ads in the "neighborhood" or "shopper" newspapers distributed as giveaways in many suburban communities.

Radio: To use radio commercials effectively, do some careful investigating before committing to a specific radio station or program.

The first step is to get a good feel for your potential audience. Know the age, gender, education and location of the recycling audience you wish to reach.

With this knowledge in hand, radio stations can provide rates as well as identify potential time slots. It is important to note that radio stations not only have different audiences among one another, but varying audiences throughout the day. For instance, one station may attract a large drive-time listening audience in the morning while during afternoon hours attract children as listeners.

Compare radio stations by comparing unit costs only. Identify the station that gives you the greatest exposure to your prime audience for the least amount of money. It's the only answer you really need to find.

Commercials can be made to have room for a "tag line" at the end. The radio station will record your name and location for the tag line. Again, there should be no charge for this service.

Since the recycling business benefits both the community and the environment, many broadcasters will give you bonus commercials in the form of public service announcements (PSAs). Ask the radio sales representative to check with management about this possibility.
Remember to ask the sales rep to return your audio tape after the radio run is completed.

Outdoor: If you wish to make use of billboard advertising, there are posters available for use. Simply contact the local outdoor advertising company (listed under "Advertising-Outdoors" in the Yellow Pages) and have them order paper shipped from a supplying company. There will probably be a shipping charge but, more than likely, the printing of the posters has already been paid. If you wish to have your own name printed on the poster (and you should attempt to do so), as the local outdoor advertising representative to estimate the cost in advance.

Outdoor companies will also, at times, give free exposure for public service purposes. Ask the representative about this when you buy outdoor advertising.

Publicity

Television: With local news shows offering the best opportunities for periodic coverage, the news director/editor is the pivotal person to contact here.

If the station has a talk show on which local guests appear, this also should be explored.

A cardinal rule to remember about media people: they are no different from any other person who likes to be recognized for what they do. A telephone call or note of thanks to a reporter for a story well written or told not only conveys appreciation, but establishes a good feeling about the program and those identified with it. This is always remembered the next time a story opportunity on recycling arises.

"Thank yous" and a good rapport with media personnel goes hand-in-hand.

Some Additional Ideas

Glass recycling does lend itself to activities that can be news stories and photographs, or else as a feature. Examples are listed below. These ideas, or variations, are the types of things that will serve to keep the public informed and motivated.

1. A press conference to launch your recycling program.

2. A major event—for example, Recycling Day (or R Day)—to establish a foundation for ongoing efforts.

3. An "open house" at a recycling facility adding glass to the commodities processed there. This can include:
a. the mayor and other dignitaries  
b. a ribbon-cutting ceremony around a newly-arrived glass crusher or newly-installed glass-receiving bins.

4. A community organization installing a drop-off center at its own or another location and embarking on a campaign to get glass from its members and others for a worthy purpose. An event can be built around:

a. members painting and decorating the collection drums or bins  
b. members bringing in their first bags of glass  
c. a recycler loading the first glass and presenting members a receipt for it.

5. An organization conducting a glass-collection drive to raise money for an unusual purpose, such as:

a. to finance a group trip to a noted scenic attraction or recreational activity  
b. to buy books for a local library  
c. to paint or furnish a room at a charitable facility  
d. to help pay for a new piece of hospital equipment or for added beds  
e. to underwrite tree or other community planning.

6. Unusual items turning up among the glass containers being brought to the recycling center, such as:

a. an ancient bottle for a long-ago medicine, household fluid, or other liquid  
b. an ornate jar blown for a special purpose  
c. an exotic container from a foreign land

7. A man-on-the-street interview to determine:

a. how many people are recycling glass, and why  
b. why those not recycling glass are failing to do so  
c. how many of those not recycling glass, now that they have had it called to their attention, will begin doing so

8. Celebrating the 1,000,000th pound of bottles and jars received since the recycler began processing glass. This might include:

a. mayor congratulating the individual who arrives with it  
b. recycler presenting a special award to the person  
c. a glass company representative presenting a commemorative certificate or plaque to the recycler

9. Observations by the head of the local refuse collection and disposal department on the reduced volume of glass reaching the landfill as a result of the recycling program
10. A municipal survey showing how few glass bottles and jars are found at normal, litter-prone locations, demonstrating the program's environmental impact.

11. The total amount of money paid to local organizations for fundraising glass recycling drives over a period of time.

12. A day in the life of a glass processor:
   a. the varied types of people who bring glass to the facility
   b. the different ways they bring glass in
   c. the most constant supplier(s)
   d. unusual and interesting things the processor encounters

Recognizing Opportunities

It is clear from the above list that those who actually process glass for recycling are an integral part of the publicity pattern.

This emphasizes the importance of being on the alert for opportunities in media coverage. In turn, this calls for reviewing with processors various possibilities that can be foreseen and keeping in close touch with them for follow-through on opportunities that surface.
A new glass recycling program is off to the best start if publicity accompanies it from the very outset. This can be accomplished by a well-organized press conference.

A number of matters must receive close attention to ensure that a press conference works. The end result—recognition that paves the way for follow-up contacts and activities—is well worth the careful planning necessary for success.

This chapter outlines the elements that go into making a productive press conference. While these suggestions pertain specifically to a community program, the same framework can be used to launch a statewide effort. It can also be adapted to the start of a major glass recycling program by local organizations.

**Setting Objectives**

The underlying purpose of the press conference is to make the local media aware of your recycling program. Thus, as a "kick-off" meeting, the event can serve these ends:

1. Provide direct information to individuals who are especially important to the program.

2. Help motivate those individuals to become actively involved.

3. Set the stage for implementation.

**Who Should Attend**

Considering the objective, the following people will make up your desired audience:

1. Newspaper and broadcast media reporters.

2. Newspaper and television photographers.

3. The mayor and other appropriate municipal officials.

4. Glass industry representatives.

5. Heads of local environmental or environmentally-oriented committees and commissions.

6. Leaders of community organizations that are potential active participants.

7. Local processors of recyclables.
8. Others with an inherent interest; i.e., beer wholesalers, soft drink bottlers.

Format

The objectives call for succinct presentations by four individuals:

1. The mayor
   a. to communicate his/her endorsement and support
   b. to convey the importance he/she attaches to the program
   c. to urge participation by all segments of the community

2. A glass company official
   a. to explain the glass industry's commitment to recycling
   b. to tell some interesting things about glass recycling and its progress
   c. to applaud and pledge industry support for the local program

3. A respected local environmental or civic leader
   a. to welcome the program to the community
   b. to stress the significant contributions it can make
   c. to back the mayor's call for widespread participation

4. A local recycler who will be buying, processing and shipping glass
   a. to explain how he will process it
   b. to provide details on how his buy-back operation will work
   c. to encourage local organizations and citizens to become involved in making the program a success

The press conference can then be opened for questions and discussion.

Press Kits

It is a good idea to distribute "press kits," containing the following materials as well as any other items pertaining to your program:

1. A press release describing the program and how it will be implemented locally

2. Background information on glass and glass recycling as set forth in chapter thirteen: FACTS ABOUT GLASS & GLASS RECYCLING

3. Samples of the promotional materials to be used
XI.
RECYCLING DAY (R DAY)

This chapter lays out all the steps to be taken in anticipation of R Day, an event set aside to promote and stimulate glass recycling in your community.

Event
A selected Saturday is officially designated as Recycling Day (R Day) in your local community.

Objectives
1. To dramatize the concept and importance of recycling
2. To increase public awareness and consciousness of materials that can and should be recycled
3. To demonstrate how residents can participate in recycling those materials

Materials
R Day centers on the following recyclables:
* glass bottles and jars
* aluminum and steel beverage cans
* newspapers and magazines

Concept
Through combinations of informational and promotional efforts, residents are asked to do the following in preparation for R Day:

1. Save and place in separate bags:
   a. clear glass containers
   b. amber glass containers
   c. green glass containers
   d. aluminum and steel beverage containers

2. Keep and stack in bundles their newspapers and magazines

On R Day, residents can take the bags, newspapers and magazines to any of several designated stations at which municipal refuse-collection trucks are positioned.

Municipal collection personnel load the materials separately into the trucks for hauling to a buy-back facility, or facilities, for processing and shipment to plants.

Receiving Stations
Shopping centers in different parts of the city are prime locations. Large schoolyards are good possibilities; playgrounds and parks are some others.
Revenues
Having the money received for the materials go to an appropriate municipal project or a widely-acceptable local charity provides an incentive for the public to participate.

An incentive for the municipality to underwrite the cost of manpower and equipment lies in reduced landfill space and costs that will accrue from increased public recycling.

Providing Bags
The project is enhanced if suitable large bags are made available to residents for the separated materials. Supermarkets are a possibility for providing these, since they are volume purchasers of large bags. If not supermarkets, other recycling-oriented sponsors should be sought. Whatever the sponsorship, distribution at supermarket check-out counters is desirable.

Promotion
Five avenues of access to the public are used for simultaneous advance promotion of R Day. The goal is to produce aggregate impact that will result in a high level of public response.

Community Groups
Meetings and letters offer means of communicating with community group members about R Day, stressing its importance and urging participation.

Schools
With children in the early grades having been found especially responsive to environmental education, a special piece is prepared and distributed to them through the classroom. It explains how they can help make R Day a success by making sure their parents know about it and save their materials.

Newspapers
The accent here is on feature stories...about recycling, the materials to be recycled on R Day, the benefits of recycling, the good purpose to which the money raised will be put.

Radio
Public service spots, yes. In addition, a most effective means of reaching the public is a local radio personality mounting an on-the-air R Day crusade, appealing, reminding and motivating listeners to be a part of it all.

Television
Public service spots work here, too. And, if at all possible, a periodic tagline on local news shows will help.
Follow-up
R Day is not an end in and of itself. It is a catalyst. Significant as its one-day accomplishment may be, its larger value lies in what it sets in motion on a lasting basis. That this value is achieved is up to the program and its continuing efforts.
The following state program sponsors publish periodic newsletters.

California Glass Recycling Corporation
Two Embarcadero Center
Suite 2700
San Francisco, California 94111
(415) 989-0536

Carolinas Glass Recycling Program
1515 Mockingbird Lane
Suite 808
Charlotte, North Carolina 28209
(704) 525-8259

Florida Glass Recycling Program
P.O. Box 1713
Tallahassee, Florida 32302
(904) 224-6789

New Jersey Glass Recycling Association
2399 Route 10
Morris Plains, New Jersey 07950
(201) 898-9123

Pennsylvania Glass Recycling Corporation
509 North Second Street
Harrisburg, Pennsylvania 17101
(717) 234-8091

Mid-Atlantic Glass Recycling Program
1800 Diagonal Suite 600
Alexandria, Virginia 22314
(703) 684-4421
As a communications voice for a state program, a periodic newsletter not only performs the valuable function of providing information on developments and progress, but serves to build visibility and stature. It thus is important that it have a broad base of circulation among groups central to the program as participants and supporters.

Accordingly, the following are suggestions for inclusion as mailing categories in any state launching such a publication:

Glass industry executives (state & national)
Glass industry trade press
Current glass recyclers in the state
Other recyclers
Scrap dealers
State environmental and related agencies
Appropriate state trade associations
Clean community coordinators
Local program leaders
Beer wholesalers
Soft drink bottlers
County public works officials
City public works officials
Chambers of Commerce
National legislators from the state
State legislators
Daily newspapers
Weekly newspapers
Radio stations
Television stations
XIII.
GLASS CONTAINERS AND GLASS PLANTS

The glass container plants listed below accept used bottles and jars from the general public. Individuals and groups considering a glass collection effort should contact the nearest glass plant in the earliest stages of their planning for the following important information: hours of operation; pricing policies; color specifications; contamination standards; volume minimums/maximums; and shipping and handling capabilities.

In addition to the glass container plants listed below, thousands of independent reclamation centers also buy used container glass. Check the Yellow Pages under "recycling" for the nearest center of collection point.

ALABAMA
Brockway, Inc.
3480 Lower Wetumpka Rd.
P.O. Box 8038
Montgomery, Alabama 36110
(205) 265-0731

ARKANSAS
Arkansas Glass Co.
516 W. Johnson Ave.
Jonesboro, Arkansas 72401
(501) 932-4564

CALIFORNIA
Diamond-Bathurst, Inc.
1400 W. 4th St.
Antioch, California 94509
(415) 757-0500

Ball Corp.
P.O. Box 5238
4000 North Arden Dr.
El Monte, California 91734
(818) 448-9831

Diamond-Bathurst, Inc.
22302 Hathaway Ave.
P.O. Box 3427
Hayward, California 94540
(415) 581-5025

Latchford Glass Co.
7507 Roseberry Ave.
Huntington Park, California 90255
(213) 587-7221
Foster-Forbes Glass Co.
4855 E. 52nd Pl.
Los Angeles, California 90040
(213) 562-0580

Owens-Illinois, Inc.
2923 Fruitland Ave.
P.O. Box 3818
Los Angeles, California 90051
(213) 586-4200

InCon Packaging, Inc.
24441 Avenue 12
Madera, California 93637
(209) 674-8861

Gallo Glass Co.
Oregon Drive
P.O. Box 1230
Modesto, California 95353
(209) 579-3411

Brockway, Inc.
8717 G St.
Oakland, California 94621
(415) 632-7250

Owens-Illinois, Inc.
3600 Alameda Ave.
P.O. Box 1019
Oakland, California 94604
(415) 436-2088

Brockway, Inc.
1331 E. Philadelphia St.
Pomona, California 91766
(714) 628-6081

Latchford Glass Co.
1940 Fairway Dr.
San Leandro, California 94577
(415) 357-6060

Kerr Glass Manufacturing Corp.
1221 E. St. Andrews Pl.
Santa Ana, California 92707
(714) 557-3770

Owens-Illinois, Inc.
Shulte Rd.
Tracy, Illinois 95376
(209) 835-5701
Diamond-Bathurst, Inc.
3601 S. Santa Fe Ave.
Vernon, California 90058
(213) 582-5221

COLORADO

Coors Container Co.
Glass Division
10619 W. 50th Ave.
Wheat Ridge, Colorado 80033
(303) 425-7711

CONNECTICUT

Diamond-Bathurst, Inc.
Route 101
Dayville, Connecticut 06241
(203) 774-9636

FLORIDA

Anchor Glass Container Corp.
2121 Huron St.
P.O. Box 6932
Jacksonville, Florida 32205
(904) 786-1010

Owens-Illinois, Inc.
2222 W. Bella Vista
Lakeland, Florida 33802
(813) 680-4800

GEORGIA

Diamond-Bathurst, Inc.
5158 Barnette Rd.
Atlanta, Georgia 30050
(404) 366-7020

Owens-Illinois, Inc.
3107 Sylvan Rd.
Hapeville (Atlanta), Georgia 30354
(404) 765-8600

Anchor Glass Container Corp.
Booth Rd.
Warner-Robins, Georgia 31056
(912) 922-4271
ILLINOIS

Ball Glass Container Group
13850 Cottage Grove Ave.
Dolton, Illinois 60419
(312) 849-1500

Anchor Glass Container Corp.
1955 Delaney Rd.
Gurnee, Illinois 60031
(312) 244-1000

Hillsboro Glass Co.
Hiram Walker, Inc.
Schram Ave.
P.O. Box 430
Hillsboro, Illinois 62049
(217) 532-3976

InCon Packaging, Inc.
1200 North Logan St.
Lincoln, Illinois 62656
(217) 735-1511

Kerr Glass Manufacturing Corp.
1500 North Route 59
Plainfield, Illinois 60544
(815) 436-5651

Owens-Illinois, Inc.
901 N. Shabbona St.
Streator, Illinois 61364
(815) 672-3141

Diamond-Bathurst, Inc.
End of Walnut St.
P.O. Box 490
Streator, Illinois 61364
(815) 672-2951

INDIANA

Kerr Glass Manufacturing Corp.
524 East Center St.
Dunkirk, Indiana 47336
(317) 768-7891

Brockway, Inc.
Brookside Rd.
Lape1, Indiana 46051
(317) 534-3121
Diamond-Bathurst, Inc.
Ridge Rd.
P.O. Box 363
Lawrenceburg, Indiana 47025
(812) 537-1655

Foster-Forbes Glass Co.
East Charles St.
P.O. Box 249
Marion, Indiana 46952
(317) 668-1200

Anchor Glass Container Corp.
603 E. North St.
Winchester, Indiana 47394
(317) 584-6101

LOUISIANA

InCon Packaging, Inc.
P.O. Box 789
Ruston, Louisiana 71270
(318) 247-8041

MASSACHUSETTS

Foster-Forbes Glass Co.
1 National St.
P.O. Box 398
Milford, Massachusetts 01757
(617) 478-2500

MICHIGAN

Owens-Illinois, Inc.
500 Packard Hwy.
P.O. Box 220
Charlotte, Michigan 48813
(517) 543-1400

MINNESOTA

Anchor Glass Container Corp.
P.O. Box 69
Shakopee, Minnesota 55379
(612) 445-5000

MISSISSIPPI

Diamond-Bathurst, Inc.
4 Giles St.
Gulfport, Mississippi 39501
(601) 863-2474
MISSOURI

Flat River Glass Co.
1000 Taylor Ave.
Flat River, Missouri 63601
(314) 431-5743

Foster-Forbes Glass Co.
1500 Foster-Forbes Dr.
P.O. Box 615
Pevely, Missouri 63070
(314) 479-4421

NEW JERSEY

Leone Industries
43 Southeast Ave.
P.O. Box 400
Bridgeton, New Jersey 08302
(609) 455-2000

Ball Corp.
Minue St.
Carteret, New Jersey 07008
(201) 969-1400

Anchor Glass Container Corp.
Clifwood Ave.
P.O. Box 557
Clifwood, New Jersey 07721
(201) 566-4000

Brockway, Inc.
Center St.
P.O. Box 550
Freehold, New Jersey 07728
(201) 462-6500

Foster-Forbes Glass Co.
328 S. Second St.
Millville, New Jersey 08332
(609) 825-5000

Wheaton Industries
Third & G st.
Millville, New Jersey 08332
(609) 825-1400

Anchor Glass Container Corp.
83 Griffith St.
Salem, New Jersey 08079
(609) 935-4000
NEW YORK

Central New York Bottle Co.
RD #6, County House Rd.
Auburn, New York 13021
(315) 255-5201

Diamond-Bathurst, Inc.
901 Grand Central Ave.
Elmira, New York 14902
(607) 737-3531

Owens-Illinois, Inc.
Great Bear Rd, RD #5
Fulton, New York 13069
(315) 598-0931

NORTH CAROLINA

Ball Glass Container Corp.
1856 Hendersonville Rd.
Asheville, North Carolina 28803
(704) 274-2255

InCon Packaging, Inc.
P.O. Box 887
Henderson, North Carolina 27536
(919) 492-1131

Foster-Forbes Glass Co.
2200 Firestone Pky.
P.O. Box 1757
Wilson, North Carolina 27893
(919) 291-1500

Owens-Illinois, Inc.
Highway 52S at Midway
P.O. Box AE, Salem Station
Winston-Salem, North Carolina 27108
(919) 764-2900

OHIO

Brockway, Inc.
1700 State St.
P.O. Box 2488
Zanesville, Ohio 43701
(614) 452-7581
OKLAHOMA

Brockway, Inc.
300 East 4th St.
Ada, Oklahoma 74820
(405) 332-0415

Anchor Glass Container Corp.
McLaughlin Rd.
P.O. Box 908
Henryetta, Oklahoma 74437
(918) 652-9631

Brockway, Inc.
York St.
P.O. Box 8
Muskogee, Oklahoma 74402-0008
(918) 682-6621

Ball Glass Container Group
800 S. Madison
P.O. Box 1217
Okmulgee, Oklahoma 74447
(918) 756-5990

Kerr Glass Manufacturing Corp.
South Main St. & Morrow Road
P.O. Box 97
Sand Springs, Oklahoma 74063
(918) 245-1313

Liberty Glass Co.
317 E. Lee St.
Sapulpa, Oklahoma 74066
(918) 224-1440

OREGON

Owens-Illinois, Inc.
5850 N.E. 92nd Dr.
P.O. Box 20067
Portland, Oregon 97220
(503) 251-9481

PENNSYLVANIA

Brockway, Inc.
Plant #1
Brockway, Pennsylvania 15824
(814) 261-6452
Brockway, Inc.
Plant #2
Brockway, Pennsylvania 15824
(814) 261-5389

Owens-Illinois, Inc.
Grand Ave.
P.O. Box 150
Clarion, Pennsylvania 16214
(814) 226-7600

Anchor Glass Container Corp.
1926 Baldridge St.
Connellsville, Pennsylvania 15425
(412) 628-40000

Glenshaw Glass Co., Inc.
3410 William Flinn Hwy.
Glenshaw, Pennsylvania 15116
(412) 961-0200

InCon Packaging, Inc.
One Glass Place
Port Allegany, Pennsylvania 16743
(814) 642-2521

Diamond-Bathurst, Inc
First Ave.
Royersford, Pennsylvania 19468
(215) 948-3400

Ball Glass Container Group
41 Detroit Ave.
Washington, Pennsylvania 15301
(412) 225-7500

SOUTH CAROLINA

InCon Packaging, Inc.
P.O. Drawer 9
Laurens, South Carolina 29360
(803) 984-2541

TEXAS

Diamond-Bathurst, Inc.
1901 South Hwy. 287
Corsicana, Texas 75110
(214) 874-7436

Anchor Glass Container Corp.
4202 Fidelity St.
P.O. Box 24218
Houston, Texas 77029
Owens-Illinois, Inc.
5200 Beverly Drive
P.O. Box 20728
Waco, Illinois 76702-20728
(817) 754-9500

Foster-Forbes Glass Co.
Interstate 35E
P.O. Box 677
Waxahachie, Texas 75165
(214) 937-3430

VIRGINIA

Brockway, Inc.
Route 3
P.O. Box 190
Danville, (Ringold), Virginia 24586
(804) 799-5880

Owens-Illinois, Inc.
150 Industrial Blvd.
P.O. Box 400
Toano, Virginia 23168
(804) 566-1200

WASHINGTON

Northwestern Glass Co.
5801 East Marginal Way South
Seattle, Washington 98134
(206) 762-0660

WEST VIRGINIA

Owens-Illinois, Inc.
8th Ave. & 5th St. West
P.O.Box 640
Huntington, West Virginia 25701
(304) 529-7191

Diamond-Bathurst, Inc.
Keyser Industrial Park
P.O. Box 968
Keyser, West Virginia 26726
(304) 788-4055

WISCONSIN

Foster-Forbes Glass Co.
South McHenry St.
P.O. Box 128
Burlington, Wisconsin 53105
(414) 763-9161
XIV. FACTS ABOUT GLASS AND GLASS RECYCLING

The following is a list of "Do you know..." facts about glass. They are useful for inclusion in promotional materials, advertising spots and any piece aimed at increasing the recycling efforts in your community.

* Egyptian beads dating from 12000 B.C. are the earliest known example of man-made glass.

* Man learned to mold glass about 7000 B.C. The first bottles and jars were made in 1500 B.C., and glass blowing was developed in approximately 20 B.C.

* The Mason jar, invented in 1858, allowed fruit and vegetables to be preserved.

* In 1903, the invention of the Owens Automatic Bottle Machine allowed high-speed production of bottles and jars of uniform height, weight and capacity and surpassed glass blowing as a major method of production.

* Glass making begins with a mixture of sand, soda ash, limestone and recycled glass (cullet). These ingredients are heated to 2,700 degrees to form liquid "molten glass."

* From the furnace, glass is cut into "gobs" and diverted to molding machines to be blow into containers. Containers cool for about an hour in a special oven called an "annealing lehr" to become stronger. Each bottle is then inspected before being shipped.

* Glass is 100% recyclable. There are no waste by-products.

* Glass must be hand-sorted by color before recycling.

* Except for aluminum beverage containers, glass has experienced the most rapid growth in recycling of any recyclable material. For glass manufacturers, recycling reduces air emissions, extends furnace life and reduces energy costs because recycled glass melts at lower temperatures than other raw materials. As a general rule, energy costs drop by one-half percent for every one percent of cullet used. Companies generally can use up to 70 percent cullet in their mixture, but a consistent supply is required.

* Glass containers of all kinds represent only 9.2 percent of all municipal solid waste in the U.S., compared with the leading waste sources of food and yard waste (37.1 percent) and paper packaging (17 percent). Yet, this relatively small amount represents a useful resource that can be recycled as a valuable component of new glass containers.
ass recycling is a vital part of today's environmental
trol. But, there do exist very old bottles---found in attics,
ements and even underground---that can bring as much as
30,000 from antique collectors. Prime locations from antique
tle hunting are sites where old outhouses once stood. Legend
has it that whiskey nippers would sneak a drink in the privy and
dispose of the bottle there.