ACTION PLAN

of the

PACKAGING TASK FORCE

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of

THE PACKAGING TASK FORCE

This report is the work of the members of the Packaging Task Force which is staffed by the Department of Ecology. The recommendations are those of the Task Force, not the Department of Ecology.

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January 2, 1991

STATE OF WASHINGTON

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January 2, 1991

To The Honorable Members of the Washington State Legislature:

I am transmitting herewith the Action Plan of the Packaging Task Force.

Although the Packaging Task Force was staffed by the Office of Waste Reduction in the Department of Ecology, this action plan expresses the views and opinions of the members of the Packaging Task Force, not the Department of Ecology. Ecology's approach to solid waste management, including packaging, is described in the State Solid Waste Management Plan.

The Packaging Task Force was created by Section 48 of HB 1671, enacted by the 1989 Legislature, and was charged with evaluating methods to reduce the volume, weight and toxicity of packaging entering the waste stream, reduce reliance on single use and disposable packaging, increase recycling of packaging material, and increase the use of secondary material in manufacture.

The legislation states that the Office of Waste Reduction shall establish a Packaging Task Force comprised of "representatives of the Departments of Trade and Economic Development, Ecology, the public, local governments, environmental associations, and industry, including but not limited to product and package manufacturers retail businesses, solid waste collection companies, and recycling businesses. **However, fifty percent of the Task Force appointees shall be representative of industry** (emphasis added)."

In seeking clarification of the last phrase, and whether it means "at least fifty percent" or "exactly fifty percent," the Office of Waste Reduction was told by Representative Art Sprenkle, prime sponsor of the enabling legislation, and Co-Chair of the Joint Select Committee on Preferred Solid Waste Management that

> I strongly believe that the task force should not be limited to a 50% representation from the private sector. The retail industry has made a commitment to produce and implement a substantial plan of action for improving product packaging. Improving the environmental aspects [of] product packaging is a complex problem, one that will require the involvement of a number of different retail, commercial and industrial

entities. I believe that artificially limiting the involvement of these groups would be counter productive.

Local governments have typically borne the responsibility of disposing of environmentally insensitive product packaging for some time. Environmental groups and the public sector therefore have the important, albeit secondary, role in making sure that new packaging designs are compatible with current solid waste management systems.

The private sector, in my mind, has the responsibility to provide both the solutions and the resources to design and implement a new generation of product packaging. Let's not hinder their efforts by needlessly limiting their participation on the task force. (Letter to Kitty Gillespie, September 8, 1989)

Pursuant to legislative directive, this action plan is an industry plan. A majority (two thirds) of the members of the Task Force are industry representatives. (A complete membership list with affiliations appears in Appendix A.) When operating procedures of the Task Force were adopted, some citizen, local government and environmental members insisted that, in light of the imbalance in representation, this plan should be a consensus document, including only elements that all members agree to. However, in the final months, it became apparent that the plan included elements to which several members objected. The Task Force decided that, in lieu of having a consensus document, minority reports would be submitted by any member not agreeing with the majority opinion. Minority views are reported topically in Appendix Q.

Members of the Packaging Task Force have worked for over a year to produce this action plan. The plan provides policymakers a variety of approaches, developed and offered by the Task Force, to address the problem of excessive and toxic packaging entering the waste stream.

Sincerely,

Jay Shepard, Chair

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EXECUTIVE SUMMARY AND RECOMMENDATIONS

The Packaging Action Plan was developed by the Packaging Task Force under legislative authority granted by Chapter 431, Section 48, 1989 Laws of Washington, a part of the Waste Not Washington Act. The plan identifies methods of reducing the volume, weight and toxicity of packaging entering the waste stream, increasing its recyclability, and increasing use of recycled content in its manufacture.

The Legislature sought input from all sectors. Sixty-four percent of the members of the Task Force represent industry, eleven percent each represent state government and local government, and seven percent each represent environmental groups and citizens. There is not consensus on all the recommendations in this report from all representatives. Dissenting opinions written by representatives of the Sierra Club, the City of Seattle, Washington Citizens for Recycling, Thurston County, Whatcom County, Washington Waste Management Association and Tacoma Recycling appear in Appendix Q.

This is an industry document. It represents industry's current measures in an ongoing process to effectively reduce packaging in the solid waste stream.

The Task Force projects that implementation of this plan will result in a reduction of 20% of packaging by 1998. Structures are recommended to bring about packaging design for waste reduction, recycling and reuse, and use of recycled content in manufacturing, and to make changes in distribution and recycling systems. A plan to educate the public about changes in relevant behaviors is proposed. Some of these activities can be done with little or no state involvement, while others require legislative action and/or funding. Major recommendations follow:

* Under existing law, local governments are proscribed from banning packaging until July 1, 1993. After that date, existing law allows them to prohibit the use or sale of packaging without restriction. It is proposed that after July 1, 1993 banning authority would be vested in the Department of Ecology. It is proposed that the state permanently preempt local government authority to ban packaging, and that state authority be structured in the following ways:

    1. All packages would be required to use post-consumer recovered material in packaging. Exemptions shall be granted for packages used at least five times in the same or a substantially similar distribution system, or for packages of which the manufacturer demonstrates that waste reduction and/or source reduction necessitates use of virgin material, or for packages for which there is no

post-consumer material supply, or for packages which are prohibited by state or federal regulation from containing post-consumer recovered material; and

2. A target recycling rate would be set for each packaging material. The Department of Ecology could ban packages made of materials not being recycled at the statewide target recycling rate provided that

   a) cause is shown for the ban; and
   b) a viable substitute exists which is recycled in the state at the statewide target recycling rate for that material; and
   c) the substitute does not increase the net weight or volume of disposed waste.

Any party could petition Ecology for review of a package (Environmental, citizen members and the Task Force representatives from the City of Seattle, Thurston County and Whatcom County object to these restrictions on banning. Some believe that setting recycling rates will discourage composting of paper. See Appendices Q-6 and Q-14 for their views.); and

3. Intentional addition of the most toxic heavy metals used in packaging would be banned. Further recommendations would be made to the Legislature regarding prohibition on the sale or use of other toxic constituents of packaging.

* Establish a Western Regional Packaging Board to educate packaging professionals about package design for waste reduction, reuse and recycling (Two different structures have been proposed. See Appendices B and Q-11 for details of each.);

* Establish a 10% waste reduction goal by 1993 (reported in 1994) which shall increase by 2% a year until 1998 for a total of 20% reduction (by weight) (Environmental members, and representatives of Whatcom County and Thurston County believe that weight alone is not a sufficient measure and/or that the 20% goal is too low. See Appendices Q-9 and Q-10 for details.);

* Work to amend federal regulations to allow lightweighting of corrugated shipping containers used to ship goods by common carrier;

* Require use of post-consumer recycled material in packaging. Packages used at least five times in the same or a substantially similar distribution system, or for which the manufacturer demonstrates that waste reduction and/or source reduction necessitates use of virgin material, or for which

there is no supply, or which are prohibited by state or federal regulation from containing post-consumer recovered material shall be exempt (Environmental members and the representative of Thurston County believe that this exemption creates an intolerable loophole. See Appendix Q-13 for their views.);

* Require that if the claim is made that a package is made of recycled content, it must contain at least 25% post-consumer recovered materials (by weight). If the content level is less than 25%, the package may contain a statement identifying the content as a percent of the total package weight;

* Enact legislation requiring that rigid plastic containers distributed in Washington State bear a code signifying the type of plastic resin used (Environmental members and the representative of Thurston County believe that plastic codification systems will institutionalize use of plastics, an undesirable development. See Appendix Q-13 for details.);

* Enact legislation encouraging manufacturers of flexible plastic packaging distributed in Washington State to label the product with a code signifying the type of plastic resin used (Environmental members and the representative of Thurston County believe that plastic codification systems will institutionalize use of plastics, an undesirable development. See Appendix Q-13 for details.);

* Conduct a five year public education program aimed at changing consumer behavior, including:

  - A multi-media packaging reduction campaign
  - The conduct of solid waste audits of selected businesses with fifty or more employees (The Task Force proposes that this activity be voluntary. The Whatcom County representative proposes that it be mandatory. See Appendix Q-12 for details.)
  - A year long pilot project on bulk distribution systems;

* Establish a Packaging Council comprised of fifteen members with equal representation of industry, government, and the public with authority to

  - Set minimum permissible levels of post-consumer recycled content required in packaging;

  - Collaborate with Ecology in the setting of target recycling rates for packaging materials;

  - Monitor progress toward the ten percent (10%) waste reduction goal by 1993 and recommend to the Legislature package design standards and other measures if the

strategies identified in this report fall short of that goal;

- Recommend to the Legislature the banning of toxic constituents in packaging;

- Make recommendations to the Legislature regarding package labeling systems, and changes in the flexible plastic coding system in its first annual report;

- Advise the Department of Ecology on provision of a five year education strategy identified above;

- Make other recommendations relating to packaging as appropriate; and

- Make a specific recommendation concerning its continuation or termination in its 1996 report to the Legislature.

* Conduct in-depth waste stream composition sampling regularly;

* Institute rate incentives for all solid waste utility customers in Washington State;

* Institute price preferences or set asides for state procurement of goods packaged in packaging made from secondary materials, and for source reduced products, if possible; and

* Educate purchasing officers from both public and private sectors about purchasing goods packaged in packages made of post-consumer recovered materials.

* Increase the solid waste disposal tax to pay for the state's obligations identified in this action plan. (Environmental members and representatives of the City of Seattle, Thurston County, Washington Waste Management Association, Tacoma Recycling and Whatcom County object to this funding mechanism. See Appendix Q-3 for their views.)

HOW THIS REPORT IS ORGANIZED:

The executive summary gives major findings and recommendations. Existing conditions are discussed in Section One. Section Two contains findings and recommendations, and discusses the goals and purposes of the Task Force. Dissenting opinions held by Task Force members are presented in Appendix Q and noted throughout the report. Other appendices are presented on topics explored in greater detail.

STATUTORY AUTHORITY:

The Packaging Task Force was created by Section 48 of HB 1671, enacted by the 1989 Legislature, and is charged with evaluating methods to reduce the volume, weight and toxicity of packaging entering the waste stream, reduce reliance on single use and disposable packaging, increase recycling of packaging material, and increase the use of secondary material in manufacture.

MEMBERSHIP:

The Task Force is comprised of representatives of the Departments of Trade and Economic Development, Ecology, the public, local governments, environmental associations, and industry (including product and package manufacturers, retail businesses, solid waste collection companies, and recycling businesses). Pursuant to legislative directive, a majority (two thirds) of the members of the Task Force are industry representatives. (Environmentalists, Whatcom County, citizens, and Thurston County object to this mandate. See Appendix Q-2 for details.) A complete membership list with affiliations appears in Appendix A.

TASK FORCE STRUCTURE AND OPERATING PROCEDURES:

For the purpose of writing the Packaging Action Plan, the Task Force divided into the four following subcommittees: a) Waste Reduction and Single Use Packages; b) Recycling and reuse; c) Toxicity; and d) Education. Interim findings of each subcommittee were shared with legislators and other interested parties, and a public hearing was conducted in June, 1990 to solicit input from representatives of industry, the environment and the public in order to develop the final plan. Comments made to the Task Force were directed to the appropriate subcommittee(s) for further development. Final reports of each subcommittee were completed in August and incorporated into a Draft Action Plan. A public hearing on the Draft was held in October and comments were considered in the Final Action Plan.

The Task Force operated by consensus, whenever possible. Dissenting opinions are noted throughout the report, and summarized in Appendix Q.

AFFILIATIONS AND RELATED ACTIVITIES:

Manufacturers who market their products in several states make packaging decisions on a regional or national basis. The fact that Washington State consumes about two percent of all retail goods sold in the U. S. dictates that if Washington is to have an impact on packaging waste, cooperation with other states is essential.

For these reasons, the Task Force worked with national and regional groups involved in finding ways to reduce packaging waste. It is anticipated that appropriate structures will emerge at the national, regional and state level to assist manufacturers in reducing packaging waste at the source. The Packaging Task Force is committed to facilitation of this goal.

The Source Reduction Council, a spin-off of the Coalition of Northeast Governors (CONEG) is working to develop a strategy to reduce packaging used by manufacturers and to measure the outcome of its source reduction guidelines. It will make recommendations for public and private sector cooperation and regulation, including control of toxicity in packaging. Several members of the Packaging Task Force also sit on the Source Reduction Council, enabling both formal and informal affiliation with that group.

In general, the approach taken by the Source Reduction Council is to develop systems to assist manufacturers in design of individual packages as opposed to modifying distribution systems. Guidelines for waste reduction and recycling to be used by manufacturers have been developed. The Council has developed a protocol for use by manufacturers in implementing the guidelines.

The Council of State Governments has contracted with the Tellus Institute which is conducting a cradle-to-grave study of the environmental and economic impacts of major packaging materials to determine which are least costly environmentally to produce and dispose. Included in the assessment will be all phases of production, including, but not limited to, material extraction, energy use and environmental impacts, as well as package application and disposal. Since inception of the project last year, the scope has been amended to include comparisons of packaging applications as well as material types. For example, the result of the study might include the environmental and economic costs of packaging 16 ounces of juice in glass compared with plastic, and will give the per ton cost of each material.

Several members of the Packaging Task Force are members of the Institute of Packaging Professionals, a group which may be expected to play an increasing role in educating its members of the importance of source reduction, as well as appropriate strategies for achieving it.

TASK FORCE DUTIES:

The Packaging Task Force is charged with the following two tasks:

1. Submit guidelines on product packaging to the Environmental Excellence Product Award Subcommittee of the Solid Waste Advisory Committee by January 2, 1990. Under current law, the SWAC is responsible for advising the Department of Ecology in

development of a package labeling program to inform the public of packages that minimize environmental damage.

2. By January 2, 1991, submit a Packaging Action Plan to the Legislature, including short and long-range recommendations in order to achieve the above stated goals.

SECTION ONE: EXISTING CONDITIONS

Existing conditions that enhance or impede the reuse and recycling of packaging, and the use of post-consumer material in manufacture of packaging are identified.

Part I identifies general barriers to reuse, recycling and use of secondary materials in package manufacturing. Where appropriate, these are listed by sector (manufacturers, retailers, consumers, government).

Part II identifies specific materials that are the major constituents of packaging. The contribution of each to the waste stream is discussed, based on weight of materials. Market conditions are explored. Barriers to recycling and use of secondary materials in package manufacturing are identified.

Part I: GENERAL BARRIERS

Packaging Manufacturers:

1. Identifying logos, labels or descriptions which tell consumers whether a package can be recycled or reused are not consistently used.

    Logos, labels or descriptions indicating that a material is recyclable, that it contains recycled content, or that it can be reused are not uniform either within or across material or package types. For some materials, such as plastic, for which the industry has developed a coding system, logos, labels and descriptions are not yet universally used.

2. There are no clear standards for claiming that a package is recyclable or that it contains recycled content.

    In order for consumers to purchase appropriate packaging and to influence packaging design, it is imperative that they understand the meaning of logos labels and descriptions used. However, lack of clear standards defining logos may undermine consumer recycling.

3. Bi-material packaging not related to product quality or safe shipment impedes reuse or recycling. They make the post-consumer package difficult or impossible to recycle or reuse.

4. There are no requirements that manufacturers use secondary materials.

    In order for recycling systems to function properly, strong, stable markets for post-consumer materials are necessary.

Requiring manufacturers to use post-consumer materials is one way to induce market development. For instance, most cereal and laundry boxes are made from recycled fiber whereas most Kraft paper bags are made from virgin materials.

5. Contamination of materials is a barrier to reuse and recycling.

Post-consumer materials can be contaminated by food, oils, hazardous wastes, or other materials. Public education and/or segregation of materials by type and function may result in a cleaner, more useful commodity.

6. Recycling infrastructures for packing materials are sometimes not readily available.

Materials used in secondary or tertiary packaging are frequently not identified, or if identity can be determined, adequate opportunities for recycling do not exist. Excelsior instead of polystyrene packing materials is presently easier to recycle.

7. Non-uniform containers impede reuse or refillability.

In the context of a curbside collection system, in order to maximize efficient reuse or refill, containers should be standardized. For example, the same glass jar used for pickles could be used for peanut butter. Standardization of containers would enhance a system of reuse.

8. Labels affixed with certain glues or adhesives are difficult to remove.

Labels are sometimes difficult to remove during recycling processes.

Retailers:

1. There is a perception that retailers, especially smaller stores, lack the knowledge to conduct consumer education campaigns on packaging.

Retailers are the intermediaries between manufacturers and consumers, but may feel they have little control over consumer education (including displays related to packaging which focus on recycling, reusing).

2. The cost of in-house recycling of secondary/tertiary packaging by retailers is sometimes prohibitive.

Compactors are too expensive, especially for small retailers, and current Washington solid waste rate structures frequently do not induce recycling of packing materials through such measures as incentives.

3. Retailers, by virtue of their intermediary position, could encourage manufacturers to provide better designed, better packaged products.

In the same way that consumers can demand that retailers provide better designed and packaged products, retailers can make this demand of manufacturers and direct suppliers, requesting that products be designed for longer life, and be distributed in bulk and/or reusable containers.

Government:

1. Inexpensive disposal of mixed waste (low tipping fees) invites consumers to generate more, not less waste.

Evidence has shown that by charging more for disposal of mixed solid waste than for source separated materials, government will induce consumers to purchase efficient packaging. Rate incentives, such as variable can rates for garbage should be required, and landfill tipping fees should reflect the true cost of waste management.

2. The fact that use of post-consumer materials in manufacture of new products is not required constitutes a barrier to recycling.

Procurement policies should be developed to stimulate markets for post-consumer materials.

Consumers:

1. Space, especially for apartment dwellers, is a barrier to recycling.

2. Consumers lack the information that they need to make informed purchases.

Consumers need to be informed about the following:

a. Impact of using the variable can rates available in their

jurisdictions, and the relationship between packaging and disposal costs;

b. The benefits of buying concentrates or products distributed in refillable, reusable, or bulk distribution systems, or in significantly reduced packaging; and

c. Other waste reduction strategies.

3. Consumers lack clearly defined strategies for becoming involved in packaging issues.

Consumers would benefit from information identifying purchasing practices that will result in greater use of concentrates, refillable, reusable, or bulk delivery systems, development of a system to promote container reuse (see Manufacturers, item 7 above regarding packaging standards) and other desirable outcomes.

Part II: MATERIAL-SPECIFIC BARRIERS

General provisions:

State Recycling Goal:

House Bill 1671 sets a 50% recycling goal by 1995. This rate is based on the assumptions that 70% of the waste in Washington State is recyclable, and that 70% is a reasonable diversion rate (70% of 70% is 49%, which was rounded to 50%.). Essentially all packaging materials are recyclable. However, few approach or surpass the 70% diversion level. Refillable beer bottles at 67.6% and refillable soft drink bottles at 98.7% are the exceptions.

Independent recyclers have traditionally provided the public an opportunity to recycle materials that have an intrinsic value high enough to warrant recovery. Local governments instituting collection programs have added to the equation the avoided cost of an alternative disposal option, such as landfilling so that the material is collected if its intrinsic value plus the avoided cost of disposal is equal to or greater than the cost of separate collection and recycling of the material.

For other packaging types which are not now routinely diverted, manufacturers must initiate or renew efforts to recycle or reuse packaging materials. Because recyclable packaging is so large a component of the waste stream (27.5%), it is imperative that a considerable amount of recyclable packaging be diverted from the disposed waste stream if the state is to achieve the overall goal of fifty percent recycling by 1995.

TABLE 1
WASHINGTON STATE'S WASTE STREAM

Packaging materials entering Washington State's Waste Stream are shown in the first column. Column 2 shows the total disposed tons of each packaging material. Columns 3-5 show contributions made by residential, commercial, and self-haul sectors. Column 6 shows each packaging material as a percent of the total disposed tons. Column 7 shows the total tons of each packaging material as a percent of the total generated, followed by the percent of each material that is recycled. Column 9 shows the weight of each packaging material as a percent of the total generated. The last column shows the weight of each material as a percent of the total packaging generated. Matrix Management projects that 25% of the mixed waste paper, 75% of the nonrecyclable paper, and 17% of the wood is packaging. Those adjustments are reflected here.

Glass:

Packaging Materials	WA Disposed Tons	Residential	Commercial	Self Haul	% Total Disposed	Tons Generated	% Recycled	% of Total Generated	% Total Packaging
Nonrefill. beer bottles	see note a	see note a	see note a	see note a	see note a	see note a	see note a	see note a	see note a
Refill. beer bottles	10,300	5,500	2,700	2,100	.2	31,600	67	.5	1.8
Nonrefill. soft drink btls.	see note a	see note a	see note a	see note a	see note a	see note a	see note a	see note a	see note a
Refill. soft drink bottles	< 50	< 50	< 50	< 50	**	600	100	**	.03
Container glass	183,500	120,800	40,400	22,300	4.4	211,700	13	3.3	12.2

Metal:

Packaging Material	WA Disposed Tons	Residential	Commercial	Self Haul	% Total Disposed	Tons Generated	% Recycled	% of Total Generated	% Total Packaging
Aluminum cans	20,200	13,100	5,200	1,900	.4	36,300	44	.6	2.1
Aluminum containers	6,500	3,800	2,700	< 50		6,600	1.5	.1	.3
Tin cans	64,300	45,300	12,600	6,400	.1	66,000	2.5	1.0	3.8
Bi-metal cans	< 50	< 50	< 50	< 50	**	0	**	**	0

Paper:

Packaging Material	WA Disposed Tons	Residential	Commercial	Self Haul	% Total Disposed	Tons Generated	% Recycled	% of Total Generated	% Total Packaging
Corrugated	359,800	85,800	237,100	36,900	8.6	727,900	50	11.6	42.1
Mixed waste paper	111,650	60,850	42,600	8,200	2.6	130,550	14	2.0	7.5
Nonrecyclable paper	181,200	78,975	87,300	14,925	4.3	181,200	0	2.9	10.4

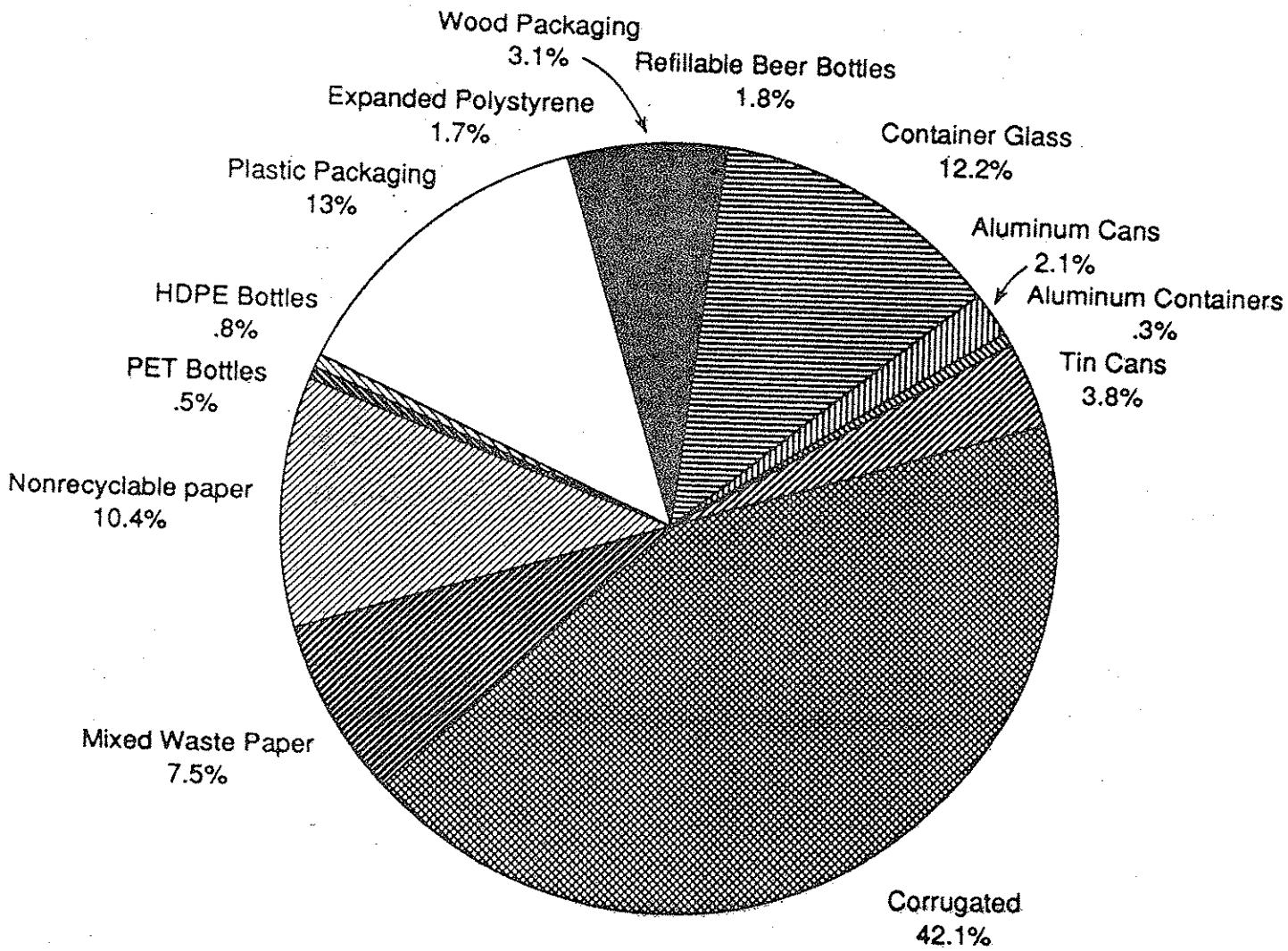
Plastic:

Packaging Material	WA Disposed Tons	Residential	Commercial	Self Haul	% Total Disposed	Tons Generated	% Recycled	% of Total Generated	% Total Packaging
PET bottles	9,900	7,500	1,300	1,100	.2	10,100	2	.1	.5
HDPE bottles	14,000	10,500	2,300	1,200	.3	14,800	5	.2	.8
Plastic Packaging	225,300	113,400	93,800	18,100	5.4	225,400	0	3.5	13
Expanded Polystyrene	30,900	7,700	21,000	2,300	.7	30,900	0	.5	1.7

Wood Packaging	54,264	3,536	23,527	27,200	1.3	54,264	0	.8	3.1
TOTAL	1,271,914					1,727,914		27.5	100

NOTES: (a)Recycling figures for nonrefillable beer and soft drink bottles are included in the container glass category. (b)PET recycling begun since waste sampling was done is not reflected.
SOURCES: Table E.1, State Solid Waste Plan Issue Paper No 6, and conversations with Charlie Scott of Matrix Management.

Graph 1
Packaging in Washington State



These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

Reported Packaging Weights Cited in this Report:

Packaging weights and percents cited in the body of this text are derived from Position Paper No. 5 of the Washington State Solid Waste Management plan, 1990, and are summarized in Table 1. Graph 1 depicts major material groups used in packaging.

Some representatives of specific materials have objected to reported tonnages. The Task Force recommends that Ecology work with industry groups to review the methodology and resulting tonnages in future waste stream composition sampling.

Biodegradability:

Much attention has focused on biodegradability as a solid waste solution. However, it is not a panacea for the solid waste crisis. Educational programs need to debunk the myth that biodegradable materials are "environmentally friendly."

Most wastes decompose very slowly in landfills. Biodegradable wastes play a positive role in solid waste management only when composting systems are utilized.

Materials:

Glass:

Glass packaging is 3.8% of all waste generated in Washington State, and 14% of packaging generated. A small amount of glass is refillable bottles which are refilled at a high percent (100%). Refillable beer bottles comprise 1.8% of the 14% which is glass packaging, and are recycled at a rate of 67.6%. Most of the 14% is container glass (12.2% out of the 14%), and is recycled at a rate of only 13 percent.

The implications of these statistics are twofold: 1) refillability encourages higher diversion rates; and 2) container glass needs to be targeted for aggressive recycling.

Standardization of glass containers would enhance opportunities for source and/or intermediate separation for reuse, which is preferable to recycling. If reusable container glass could be provided at or below cost of virgin or recycled glass, manufacturers and consumers would welcome the development of a reuse system.

Color separation is a problem for recyclers, but could be greatly reduced by source separation of containers.

Except for distance to market, container glass is needed and used.

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

Delivery costs interact with marketability.

State Solid Waste Management Plan Issue Paper No. 7 discusses the market conditions for glass:

> Post-consumer glass consists of three types: container glass, refillable container glass and other non-container glass. In 1988, 21% of recyclable glass was recovered in the State. Prices have been fairly stable for the past five years.
>
> 1. **Current Price**
>
> - White and Green Separated - $ 40.00 per ton.
> - Brown - $ 50.00 per ton.
> - Refillable Glass Containers - $125.00 per ton.
>
> 2. **Market capacity and Projected Demand**
>
> Markets are adequate for separated, recyclable glass to be used as cullet in the production of new glass products. Present endusers are reportedly willing and able to consume twice the current amount of cullet now being recycled. The secondary market for refillable containers is much more restricted. Virtually no refillable soft drink bottles exist, and only a limited number of refillable beer bottles are produced and used in the State. The local capacity to refill these bottles is limited. Therefore, much of this glass is recycled as cullet. There are limited markets for glass products such as plateglass, mirrors and light bulbs.
>
> 3. **Market Barriers to Increased Recycling of Glass**
>
> Market barriers include:
>
> - Increased use of other materials such as plastic and aluminum.
> - Transportation costs, particularly for refillable glass containers.
> - Storage and handling of refillable bottles.
> - Lack of processing and end-users for other types of glass (non-container).
>
> (Op. Cit., p.p. 12 - 13)

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

Metals:

Aluminum cans:

Aluminum cans make up 0.6% of all the waste generated in Washington State, and 2.1% of all packaging. They are recycled at a rate of 44%. According to Franklin Associates, the national recovery rate for aluminum beverage cans was 46.2% in 1986.

Barriers to recycling aluminum cans are food and water contamination. Public education about recycling procedures can be used to overcome this problem.

Aluminum foil, because it is light weight, is difficult to recycle. It evidences a high loss in processing because much of it is burnt off. Aluminum foil used in household packaging can be reused, and longer lived substitutions can frequently be used.

Aluminum cans used for non-beverage food should be clearly labeled as aluminum so that consumers know how to recycle them.

Tin cans:

Tin cans comprise 1% of all waste generated in Washington State, and 3.8% of all packaging. They are recycled at a rate of 2.5%. According to Franklin Associates, the national recycling rate for steel food cans was 5.6% in 1986.

Contamination remains a problem which can be addressed by public education on home preparation procedures. Paper adhesives should not prohibit label removal as is sometimes the case.

Bimetal cans:

Bimetal cans such as steel/aluminum combinations comprise a fraction of the waste stream and are less than 50 tons.

The State Solid Waste Management Plan Issue Paper No. 7 discusses the current market conditions for aluminum and tin plated steel cans:

1. **Current Price**

   - Aluminum Beverage Containers - $560.00 - 1000.00 per ton.

   - Tin Cans - $ 40.00 - 60.00 per ton.

   ....

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

2. **Market Capacity and Projected Demand**

Metals generally have a much higher price to weight ratio than other recyclable materials. Markets for most types of metals continue to be strong although they fluctuate dramatically, in reaction to general economic conditions and prices for virgin feedstock.

The price of aluminum has increased substantially in the last 20 years, but prices have recently declined. The available supply appears to be the only constraint to additional recycling of used aluminum beverage containers. The market will continue to be healthy for the foreseeable future.

Prices for tin cans remained fairly constant over the last several years. This is partially tied to the value of steel and tin on world markets. The regional processor of tin cans, MRI, reports that it can easily handle another 1,000 to 2,000 tons of tin cans per year, two to three times what is currently recycled. This, however, is far less than what is potentially available in the waste stream.

3. **Market Barriers to Increased Recycling of metals**

Market barriers include:

- The necessity of separating metals from other components and materials.
- Competition from virgin material prices.

(Op. Cit., p.p. 13 - 14)

The price for aluminum cans varies with seasonal demand and the price of alternative sources of material, such as other forms of scrap or virgin aluminum produced from ore. Melting capacity is not a limiting factor. As long as aluminum continues to grow as a packaging choice, the demand for used aluminum containers will continue to out pace the growth of systems for feeding that demand.

<u>Corrugated</u>:

Corrugated packaging is the largest single component of the packaging waste stream, comprising 42.1% of all packaging in Washington State, and 11.6% of all waste. Over 727,000 tons of corrugated were generated in 1989. Fifty percent (50%) of this amount was recycled. The remaining tons were disposed.

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

Of the disposed tons, 66% was generated in the commercial sector which offers greatest promise for expansion of efficient collection systems. As discussed above, solid waste disposal rates and the cost of compactors pose the greatest impediments to collection.

Some corrugated containers are waxed. These can not be recycled with untreated cardboard. Use of a removable plastic liner or a reusable system might be a better solution than wax coating.

Mixed Waste Paper:

Of all the mixed waste paper collected in Washington State, Matrix Management projects that 25% is packaging. Based on this projection, paper packaging comprises 7.5% of all packaging, or 130,550 tons. Like other mixed waste paper, this is recycled at a rate of 14%. Of the 111,650 tons disposed, 55% is generated in the residential sector, 38% in the commercial sector, and 7% in self-haul.

In addition to the glut of paper available for recycling, mixing of different grades results in a lower market value for otherwise high grade paper. It is cost effective to sort out the higher grades in most areas of the state.

There are no clear and universal standards for grading paper. These should be developed and, if appropriate, separation systems developed so that the higher value of paper can be realized.

De-inking remains a problem for certain types of inks, and use of colored papers lowers their market value. To the extent possible labels should be used which do not pose these problems.

Nonrecyclable paper:

The term "nonrecyclable" is the term attributed in the Best Management Practices Analysis for Solid Waste to any of several varieties of paper which have been coated with a plastic polymer. In the face of changing technology and developing markets, "nonrecyclable" may soon become outmoded nomenclature.

Examples of nonrecyclable paper are fiberboard milk containers and frozen food packages which are coated to keep moisture in or out. Matrix Management projects that 75% of nonrecyclable paper is packaging, comprising 10.4% of all packaging in Washington State, or 181,200 tons. Forty-three percent (43%) of the disposed nonrecyclable paper is generated in the residential sector, 48% in the commercial sector, and 9% in self haul.

Tetra Pak, a leading manufacturer of polycoated milk cartons and aseptic packaging is investigating the possibility of collecting

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

and processing poly-coated milk cartons and frozen food containers, along with aseptic packaging, a composite package made of paper, plastic and aluminum. Preliminary tests have been conducted by Rabanco with positive results. If the processing system can be refined, and collection systems established, it may soon be possible to divert these materials from the waste stream.

State Solid Waste Management Plan Issue Paper No. 7 discusses the market conditions for paper:

> B. Paper
>
> This section addresses old newspaper, corrugated containers, ... and mixed waste paper. In 1988, ...[a]bout 51% of corrugated containers was recycled. High grade papers enjoyed a recovery rate of approximately 54% while only 14% of mixed waste paper was recycled.
>
> 1. **Current Price**
>
> Prices are estimates for early 1990:
>
> ...
>
> - Corrugated - $ 50.00 per ton.
> - High Grade - $125.00 per ton.
> - Mixed Waste - $0 per ton.
>
> 2. **Market Capacity and Projected Demand**
>
> - **Old Corrugated Containers (OCC)** - This is the largest single paper commodity recovered and recycled in the State. The recovery rate of 54% is projected to increase to as high as 75 -80% over the next ten years. Demand is strong with prices ranging over the last five years from $40- $120 per ton. Those prices have weakened in recent years in response to a general slowdown in economic conditions after the mid-1980 expansion. Prices are now stabilizing as new domestic capacity to use OCC comes on line. This very healthy trend is likely to continue in the foreseeable future.
>
> In addition, foreign demand is expected to be strong and to experience continuing growth further strengthening prices. With substantial

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

regional capacity, all of the available supply of recycled corrugated from Washington may well be used by Northwest mills.

- **Mixed Waste Paper** - This grade includes magazines, books, boxboard, junk mail and other scrap paper. Mixed waste paper is used primarily to make recycled paperboard products. The overwhelming majority (about 88%) of mixed waste paper recovered in the State is exported. Prices for mixed waste paper are low and volatile. Recent prices have ranged from -$20 to $45 per ton. Current-prices are at their lowest levels in years, in the negative to zero range. Relatively inexpensive higher grades such as newsprint have driven down prices paid for mixed waste paper. These conditions are likely to continue as more and more recycling programs are implemented nationwide. While foreign markets are growing, they are not seen as consistent and reliable. Domestic markets are very limited. Without any expansion by Washington mills, projected use will be only about 10% of the total amount generated in 1999. Thus, the market outlook for mixed waste paper is poor.

  The development of new uses by existing mills or alternative endusers are the only opportunities for improving markets for mixed waste paper. Market development efforts must focus on this lower value paper grade which makes up about 23% of the disposed waste paper in the State.

3. **Market Barriers to Increased Recycling of Paper**

Market barriers include:

- High initial capital requirements.
- Reduced quality when using recycled fiber.
- Difficulty of obtaining environmental permits for new recycled fiber processing facilities.
- High transportation costs.
- Lack of demand for mixed waste paper.
- Higher paper production operating costs.

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

- New technologies which reduce recyclability.
- Low demand for products made from secondary fiber.

(Op. Cit., p.p. 8 - 9)

Wood:

Wood packaging is .8% of the waste generated in Washington State and 3.1% of all packaging. Most of this is in the form of pallets.

Storage, collection and separation all remain chronic problems although some retailers assert that a system of reusable pallets made out of a durable material might substitute for wood pallets.

Plastic:

Plastics in General:

Plastic resins are generally grouped into two categories, thermoplastics and thermosets. The chemical structure of thermoplastics allows them to be melted down and recycled. Thermosets, on the other hand, can not be recycled.

Collection of plastics appears to be problematic in some areas due to the density of the material. On board shredders may be a solution to this, but the final verdict is not in yet.

Due to lack of clear FDA regulations to the contrary, manufacturers are reluctant to use post-consumer plastics for food grade packaging, with the exception of polystyrene egg cartons. This means that there must be alternative and sustained market demands for plastics if recycling of package waste is to be successful.

An industry codification system has been developed for rigid containers, and, as noted above, is expected to be universally used, as it is mandated in 20 states.

In Washington State, adequate curbside collection programs for mixed plastics are virtually nonexistent.

PET:

PET (Polyethylene Terephthalate) is 0.1% of waste generated in Washington State and 0.5% of packaging. According to the Solid Waste Management Plan Issue Paper No. 5, PET is recycled at a rate of 2%. According to Keep America Beautiful, Inc., the national recycling rate for PET is 20%.

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

HDPE:

HDPE (High Density Polyethylene) is 0.2% of the waste generated in Washington State, and 0.8% of all packaging. It is recycled at a rate of 5%. Milk jugs account for one of the largest single uses of HDPE in packaging.

Many chemical products such as laundry detergent and oil are packaged in HDPE. Many of these are colored. The use of pigments, and chemical contamination are being overcome as barriers to recycling. HDPE is being recycled in a growing number of areas of the country.

POLYSTYRENE:

PS (Polystyrene) is 0.5% of the waste generated in Washington State, and 1.7% of packaging. PS is being recycled by Dolco Packaging and Ranier Plastics.

OTHER PLASTIC PACKAGING:

Plastic packaging other than those listed above account for 3.5% of the waste generated in Washington State, and 13% of all packaging. Included in this category are LDPE (low density polyethylene) films and PVC (polyvinyl chloride) containers. Unlike rigid containers from which food contamination can be rinsed, films are somewhat more difficult for consumers to clean. However, they can also be compacted better than rigid containers, making them better candidates for recycling in this respect. Films are not regularly codified as to resin type.

The State Solid Waste Management Plan Issue Paper No. 7 discusses markets for plastics:

C. Plastics

Recyclable plastics include PET soft drink bottles, HDPE milk bottles, low-density polyethylene (LDPE), flexible plastic films and bags, expanded polystyrene and other mixed thermal plastics. Current recovery rates are low: approximately 2.6% of PET and 5% of HDPE bottles were recovered in the State during 1988.

1. **Current Price**

- PET Bottles - $300.00 per ton.
- HDPE Bottles - $150.00 per ton.
- Plastic Films - $150.00 - 200.00 per ton.
- [PS - $300 per ton.]

These data are based on statistical extrapolation of waste stream composition samples taken in Washington State in 1987-88. Some representatives of specific materials have objected to reported tonnages, as they vary from national industry production statistics. The Task Force recommends that Ecology work with industry groups to assure accuracy of waste stream sampling.

2. **Market Capacity and Projected Demand**

Because of their low weight to volume ratio, plastics are expensive to collect, process and transport. However, the demand for clean, separated plastic is strong, exceeding the present level of recovery. This demand is a function of processing capacity nationwide and the global petrochemical market. Secondary resin sells for about 50% of virgin materials, making it attractive to many types of users [Since publication of this document, oil prices have fluctuated due to activities in the Middle East. In Early October, 1990, post-consumer plastics sold for about 60% of the price of virgin material.]. Existing markets are primarily for PET bottles, HDPE bottles and low-density polyethylene film, sheeting and bags. In most cases, these plastics must be separated and cleaned to be recycled. Technology is available for making molded products from mixed post-consumer plastic. These products include lumber, landscape timbers, fencing, roadside posts, [cleaning products, petroleum bottles] and pallets. However, there is virtually no market at the present time for mixed plastics.

3. **Market Barriers to Increased Recycling of Plastics**

Market barriers include:

- The necessity of separating plastics by resin type.
- Contamination.
- The cost of collecting, storing and transporting this material.
- The lack of developed markets for products made from mixed post-consumer plastics.

(Op. Cit., p. p. 10 - 11)
[Information in brackets added]

<u>Composites</u>:

Some packages are made of more than one material, such as the aseptic packages mentioned above (paper, plastic and aluminum). However, these materials are not readily recyclable. Typically, if composite packages can be recycled, package labels do not include instructions on method. Substitutes could be developed for packages which can not be recycled.

SECTION TWO: FINDINGS AND RECOMMENDATIONS

Strategies and methods recommended by the Task Force are divided into six parts, including plan implementation oversight, waste reduction, reuse, recycling (including package labeling), toxicity and public education.

PART I: PLAN IMPLEMENTATION OVERSIGHT

To oversee plan implementation, the Task Force recommends formation of a Packaging Council (See Appendix F). In general, the Packaging Council is proposed for the purpose of advising Ecology on the implementation of this action plan, monitoring its success, and making additional recommendations and reporting annually to the Legislature. The Council would be comprised of fifteen members, with equal representation from business & industry, government, and the public. A specific recommendation on whether or not it should be continued would be made in the 1995 annual report of the Council. Throughout this action plan, additional duties of the Council are discussed.

PART II: WASTE REDUCTION

General principles:

The Task Force affirms that packaging reduction recommendations must balance waste reduction with any potential negative impact on energy consumption, water use, transportation, air quality, sewage treatment capacity, and raw material acquisitions. This principle must pervade all reduction strategies if they are to be truly successful.

Waste Reduction Goal:

The Task Force struggled with the issue of waste reduction goal setting. Setting a quantifiable target will drive innovation and change. However, the fact that there are over 200,000 consumer and commercial packages makes quantification somewhat difficult without having a database to draw from.

A reduction of 10% in the amount of packaging generated is recommended as a goal for attainment by 1993, and an additional 2% per annum through 1998, for a total of 20%. Attainment of the goal will be measured in terms of the amount of packaging weight generated per capita, and based on the waste stream analysis presented in the Best Management Practices Analysis for Solid Waste, (DOE, 1988). (Environmentalists, Whatcom County and Thurston County believe this goal is too low, and/or that waste reduction should not be measured by weight alone. See Appendices Q-9 and Q-10 for details.)

Corrugated Containers:

The exception to the rule that packaging reduction is impossible to quantify is corrugated shipping containers. Corrugated is 42.1% of all packaging generated in Washington State, comprising the largest single packaging component. Minor reductions in the amount of fiber used per container, if implemented on a systemic basis, will result in major reductions.

Corrugated containers shipped by common carrier must be manufactured according to rules adopted by national rail and trucking associations. The rules, developed in the early 1900's, anticipate a shipping environment in which boxes are tossed around. Boxes must pass a standard burst test demonstrating that they are strong from the inside out. A minimal amount of fiber must be used. If the rules were changed to reflect the demands of the current shipping environment in which boxes are stacked several high, a compression test would substitute for a burst test. Experts project that a typical corrugated container could be lightweighted by about 10%. This would mean a reduction of 4.2% in packaging generated.

The Task Force is working with other concerns to change the rules governing manufacture of corrugated (See Appendix C), and recommends that these activities be continued until necessary changes are made.

Western Regional Packaging Board:

Given the fact that consumer and commercial packages are so numerous, and recognizing that packaging these products is not of local, but rather of national and international origin, it is more effective to participate in national and regional efforts to favorably influence packaging source reduction. The Task Force recommends formation of a regional industry "self-regulating" board responsible for development of a source reduction work plan (See Appendix B.). Such a structure would make available the broadest range of technical expertise.

The multi-state regional board, made up of a wide cross section of industry personnel and public interest and government representatives would function as the forum to answer questions of citizens and industry concerned with packaging and packaging practices. (Task Force representatives of Thurston County and environmental groups object to involving governmental and environmental interests in any other than an advisory capacity. See Appendix Q-11 for details.) Purely local issues would be dealt with at the local/state level. This board is similar in concept to organizations such as American Medical Association, National Bar Association, National Association of Manufacturers, etc.

Education of Packaging Professionals:

One of the major responsibilities of the Packaging Board is educating practicing professionals about strategies and methods for waste reduction. The following is taken from the CONEG Source Reduction Council Report, "Preferred Packaging Guidelines" and is an outline of the curriculum:

a) No Packaging

The need for any packaging of a product should be evaluated in the research and development stages and prior to introduction in the market place.

b) Minimal Packaging

Alternative methods of product and packaging design should be pursued to minimize packaging material required.

c) Consumable, returnable or refillable/ reusable packaging

-Consumable packaging is eliminated in the process of using the product so that no packaging remains.

-Returnable packaging is a container returned to a business or industry for reuse and redistribution.

-Refillable/Reusable packaging is a container or package that may be refilled by a customer or consumer from bulk or larger size containers.

d) Recyclable / Recycled Content

-Recyclable packaging is a container that will be broadly collected by recyclers.

- Recycled content is used in construction of the package.

A long term goal is proposed for a school of packaging design/engineering to be established within the Washington higher education system. The Packaging Board will assume responsibility for developing and funding this program in its developmental stages.

PART III: PACKAGE REUSE

Bulk Distribution Systems:

The need for certain types of consumer packaging could be reduced or eliminated by means of package reuse. Some products can be distributed by means of bulk distribution systems in which the consumer refills a reusable container from a bin or tank which may also be reusable. Package reuse, while a promising waste reduction strategy, poses a challenge to existing consumer, retailer, and manufacturer systems and behaviors. Moreover, there are numerous questions that must be answered about system design for product integrity, public health and safety. To answer these concerns, and to explore consumer motivation, the Task Force recommends a year long pilot project to explore bulk distribution systems (See Appendix M).

Commercial Packaging:

In addition to consumer package reuse, there are many opportunities for commercial packaging reuse. For example, some wood pallets are used, and then discarded. Polycoated corrugated boxes used for shipping produce are used only once.

Several sectors, such as the bread and soft drink industries, have discovered that product can be delivered to the consumer by means of reusable secondary packaging. The Task Force affirms that the tax code of Washington State provides a disincentive to institution of deposit systems currently being used for secondary and tertiary packaging such as produce boxes and pallets. The business accepting the deposit must pay business and occupation (B&O) tax on dollars that are refunded. This effectively destroys any incentive for participating in a deposit system. The Task Force recommends that the tax code be amended so that businesses participating in deposit systems can exempt from B&O tax any monies refunded to a depositor (See Appendix O).

The Task Force expects the Packaging Board, once established, to develop an alternate, reusable system of delivering produce.

Finally, the Task Force recommends that solid waste reduction and recycling audits be conducted at businesses with over fifty employees. About 45% of disposed packaging waste is generated in the commercial sector. However, because businesses in this sector differ with respect to the types of packaging waste generated (excepting corrugated), it is possible to generate only broad guidelines for waste reduction, package reuse and recycling. A waste reduction and recycling audit promises the best hope of addressing other, specific needs and opportunities.

PART IV: RECYCLING

Recycled content:

In order to contain recycling system costs, there must be sustained market demand for the commodities collected. Requiring that post-consumer recovered material be used in packaging strengthens demand for recyclables, and maintains their market value.

The Task Force or its subcommittees visited the question of content levels several times. The Oregon Public Interest Research Group (OSPIRG) has proposed an initiative that would set an across the board rate of 50%. This rate is high and perhaps, unattainable for various paper grades which can contain about 20%, give or take a few percentage points, depending on the paper grade, and low for glass and aluminum which can contain 70 - 100%.

Due to the broad range of technically attainable recycled content levels across material types, the Task Force recommends that all packages should contain some recycled content, within the limits of availability, technical feasibility, and state and federal regulations. If a manufacturer demonstrates that waste or source reduction necessitates use of virgin material, or if a package is reusable for the same or similar purpose five or more times, it shall be exempt from this requirement. It is proposed that Ecology be given authority to survey manufacturers of a variety of packaging material types and functions, and that the Packaging Council be authorized to set required content levels for each category in its annual reports. Required content levels could be changed annually as technology changes.

In order to induce market demand for recyclables, in addition to mandating by statute that manufacturers use recovered material in the manufacture of packaging, the same goal can be attained through public and private sector procurement practices. If the public demands use of post-consumer recovered materials in manufacturing, it will be provided by manufacturers. The Task Force proposes adoption of rules by General Administration granting a price preference or set aside for products packaged with post-consumer recovered material and/or source reduced packaging (See Appendix L). The program should be structured so that as the rate of recovered material increases, so does the competitive advantage. Further, it is recommended that Ecology conduct a series of workshops to educate the public, including but not limited to, purchasing officers from both public and private sectors, on methods of demanding packages made from post-consumer recovered materials.

Package Labeling Systems:

Environmental Friendliness:

It is proposed that any claim of environmental friendliness used on or about a package should identify the specific attribute of the package that makes it environmentally desirable.

Recycled Content:

It is recommended that in order to represent that a package is made from recycled material, it must be made from at least 25% post-consumer recovered material, measured by weight. Alternately, a package could carry a statement identifying the percent content.

Resin Type:

Sorting of plastics according to resin type can increase their value for recycling. Industry has developed a coding system for rigid plastic containers which consists of a number identifying the resin type inside three triangulated arrows. To date, no industry standard exists for film plastics. The same resins, even though chemically similar, frequently have different additives in the film and rigid forms. For this reason alone, experts assert that they should be sorted and processed separately. Added to this is the fact that rigid and film plastics, because of their physical differences, are more easily handled separately.

It is recommended that the industry-developed coding system for rigid containers be adopted in statute, provided that failure to use such coding would subject the manufacturer to a civil penalty of $50 per offense up to $500 total (See Appendix D).

It is further recommended that manufacturers be encouraged to use the coding system developed by industry for rigid containers on flexible plastic packaging, provided, however, that if industry develops an alternative labeling system specifically for flexible plastic packaging, it shall supersede the code for rigid containers (See Appendix E).

Physical Attributes of Package Labeling:

The Task Force expects the Packaging Board, once established, to assess the physical attributes of package labeling in order to enhance package recyclability.

Paper Package Labeling:

It is possible that mixed waste paper, which is 7.5% of packaging, would have a higher market value and, hence, be more readily recyclable if it could be sorted as to type for recycling. The Department of Trade and Economic Development's Market Development

Committee is expected to develop such a system, including plastic coated papers such as those used for packaging milk and frozen food. It is anticipated that this information will be considered by the Packaging Council when it becomes available.

Comprehensive Package Labeling Systems:

The Task Force recognizes that the Northeast Recycling Coalition, in cooperation with the Source Reduction Council of CONEG, held public hearings in June, 1990, and is in process of developing a comprehensive package labeling system which should be adopted in the next twelve months. Because Washington comprises only 2% of the retail market, national manufacturers will be disinclined to adopt a logo system developed for use in Washington State. Therefore, the Task Force recommends that the issue of comprehensive labeling system be tabled for subsequent consideration by the Packaging Council (See Appendix F).

Target Recycling Rates:

Under existing law, local governments will have authority after July 1, 1993 to ban any package they wish. The Task Force affirms that, to the extent possible, all packaging that can not be eliminated should be designed for recycling. The strategy selected for sending this message to manufacturers is to have the state set target recycling rates for all packaging materials, and permit the banning of packaging materials that do not meet the rate assigned to them. The proposed legislation would structure the banning process so that no packaging material recycled at its target recycling rate could be banned, except for toxicological reasons (See Toxicity below) or failure to contain the specified level of post-consumer recovered material (See Recycled Content above). Authority to ban a package or packaging material would be vested solely in the Department of Ecology and the Legislature. Any package not reaching its target recycling rate would be subject to ban after July 1, 1993 by the Department of Ecology, provided that Ecology shows cause for instituting the ban, shows that the ban would not increase material to be disposed, and identifies a substitute package meeting the performance standards of the package being banned. The substitute must be economically viable and available. Ecology would also be required to show that the substitute meets its statewide target recycling rate. Any party may petition Ecology for review of a package. (See Appendix F) (Environmental, citizen members and the Task Force representatives from the City of Seattle, Thurston County and Whatcom County object to these restrictions on banning. Some believe that setting recycling rates will discourage composting of paper. See Appendices Q-6 and Q-14 for their views.)

The target recycling rates would be set through the State Solid Waste Management Plan process, with the Packaging Council

collaborating. This seemed to the Task Force the logical means for setting these rates, since the State Solid Waste Management Plan is to anticipate many related issues, including but not limited to waste generated and recycling and disposal systems for twenty year forth. The Plan also includes a preferred strategy for attaining the state's 50% recycling goal. Target recycling rates would be set for all recyclable commodities, including packaging.

Rate Incentives:

Recognizing that rate incentives increase recycling and possibly, reduce waste generation by consumers, the Task Force recommends that rate incentives be instituted for all utility customers in the state (See Appendix K).

Commercial backhauling systems:

As noted above, at 42%, corrugated containers are the largest single component of packaging generated. The recycling rate is about 50%. Although this rate is adequate, it could be much better. Markets for corrugated are strong, and the recycling rate could be increased to 80%.

One of the best opportunities for recovering corrugated is at commercial and manufacturing sites where more than half of the total is generated. Many larger businesses that generate enough have compactors, and recycle corrugated. Retail businesses which deliver product to their own chain stores frequently backhaul corrugated, as well as other recyclables. For example, Pay n' Save has found that by backhauling recyclables from each of 120 stores, a savings of $250,000 is realized annually for an average of $2,083 per store.

Small, independent retailers, and other small businesses must be targeted for corrugated recovery, as well as other recyclables. Such businesses may request of their distributors that, as a part of doing business, a backhaul service be provided. For sectors in which the competition among distributors is stiff enough, this service will likely be provided on demand.

The Washington Retail Association and the Department of Ecology, in cooperation with the City of Seattle and the Washington Energy Extension Service, have undertaken the conduct of a series of workshops for retailers so that they see the possibility of backhauling corrugated and other recyclables, or of having them backhauled by the distributor who services their business, and providing technical assistance in establishing such programs. The Task Force recommends that this activity be continued. The economic benefit will likely drive development of such backhauling systems.

PART V: TOXICITY

Model Toxics Legislation:

The public health and environmental impacts of lead, mercury, cadmium and hexavalent chromium warrant that these heavy metals not be used in packaging. The Task Force recommends that the Model Toxics Legislation developed by the Coalition of Northeast Governors (CONEG) (See Appendix G) be enacted to proscribe the deliberate addition of these metals to packaging. This legislation proposes a phased approach to eliminating the intentional addition of these constituents to packaging to enable various industries to end the use of these materials over a period of two years. It also provides for establishment of a certificate of compliance requiring the manufacturer to verify that the law has been followed. This will enable the Department of Ecology to research the impact of the measure, and determine the effect on metal levels of using post-consumer recovered materials in packaging. Failure of the manufacturer to provide the Department of Ecology with a Certificate of Compliance within sixty days could result in suspension of sale of the product in Washington until the certificate is produced.

Future Research on the Environmental Impacts of Packaging:

As is true of waste reduction generally, the Task Force affirms that packaging reduction recommendations must balance waste reduction with any potential negative impact on energy consumption, water use, transportation, air quality, sewage treatment capacity, raw material acquisitions, and other environmental impacts. This principle must pervade all reduction strategies if they are to be truly successful. The Task Force recommends that, a part of the ongoing responsibilities of the Packaging Council, the environmental and toxicological impacts of packaging be considered (See Appendix H). Ideally, the relative impacts of different packages which can serve the same purpose should be compared so that the best package can be identified. In reality, however, such analyses are extremely complicated and controversial. Because they are so detailed and contain so many assumptions, some question the validity of the results.

To the extent that their results can be validated, the Task Force proposes the conduct of comprehensive package analyses. Short of this, if the data is unavailable to support a comprehensive approach, risk assessment is recommended. Like the comprehensive approach, all phases of production, use and disposal are included for study. However, risk assessment is a more focused approach, concerning itself with a much narrower scope. For example, the risk of disposing lead in a landfill can be explored in terms of the propensity of the lead to leach into the groundwater, and the rate at which resulting lead levels cause animal and human cancers.

As noted above, the Council of State Governments has contracted with the Tellus Institute to conduct a comprehensive study of the environmental and economic impacts of major packaging materials to determine which are least environmentally costly to produce and dispose. Included in the assessment are all phases of production, including, but not limited to, material extraction, energy use and environmental impacts, as well as package application and disposal. Since inception of the project last year, the scope has been amended to include comparisons of packaging applications as well as material types. For example, the result of the study might include the environmental and economic costs of packaging 16 ounces of juice in glass compared with plastic, and will give the per ton cost of each material. The report on the per ton uncontrolled environmental and energy impacts of packaging materials was completed on October 26, 1990, and will be information useful to Washington upon completion of the study. Because Washington State will be a beneficiary of study results, the Task Force recommends participation in this study, and proposes that the state hire a toxicologist to advise the Packaging Council in the technical assessment of study results and recommendations to the Legislature.

PART VI: PUBLIC EDUCATION

Success in reducing excessive packaging waste depends on changes made in the institutional roles of consumers and manufacturers on either end of the supply-demand spectrum, with retailers and wholesale distributors mediating the relationship. In understanding these roles and how to change them, it is possible to assert that "Consumers get whatever manufacturers choose to supply them," or that "Manufacturers provide whatever consumers demand."

In the totality of this action plan, the Task Force affirms that both consumers and manufacturers must become actively involved in reducing excessive packaging. The proposal for a Packaging Board describes some of the steps that manufacturers can take toward this goal, while this part focuses on the demand end of the spectrum. Recommendations were developed from the premise that, "Manufacturers provide whatever consumers demand."

Assuming that the universe of packaging is consumer driven, the Task Force identified consumer behaviors that will be instituted over the next five years. Once consumer goals were identified, supporting, secondary goals were identified for retailers, manufacturers, government and the media. By educating them about specific actions that they can take, it is anticipated that consumers, through their purchasing patterns, will create an inducement for manufacturers to change their product and package design practices. Major recommendations are summarized below (For greater detail, please consult the full report which appears in Appendix I):

Five Year Public Education Campaign:

A five year public education campaign is recommended with the aim of affecting the following voluntary changes in consumer, retailer, distributor and manufacturer behaviors:

Consumer goals:

Consumers will understand waste reduction and the reasons for it, and will be engaged in a number of behaviors that promote it.

I. Consumers will be shopping selectively (precycling).

   A. Shop for the least packaging

   B. Shop for reusable/refillable containers

   C. Shop from bulk delivery systems

   D. Shop for recyclable packaging

   E. Shop for packaging made of recycled material

II. Consumers will be reusing packaging

   A. Reuse packaging for shopping

   B. Reuse/refill packaging at home

   C. Avoid disposable packaging at work

Media Strategies:

A five year media campaign tailored to these specific behavioral outcomes will be conducted. General strategies are listed below (For greater detail, see Appendix J).

I. General Education Strategies

   A. A singular theme of waste reduction should be maintained throughout the campaign with a goal that exposure of the population be equal to the exposure of similar campaigns conducted by a major, national retailer (Sears).

   B. Narrowly defined consumer action messages promoted, are phased in, and repeated on a regular monthly or bimonthly basis.

C. Messages will be published in all relevant media.

D. Themes will be communicated and coordinated with retailers, and support materials will be provided.

E. Private sector efforts will be recognized through awards and publicity.

Retailer goals:

Retailers will provide in-store public education, will practice sound merchandising practices aimed at package waste reduction, and will practice in-store recycling to the greatest possible extent.

I. Merchandising Practices

Major chain stores do in-store promotions of recycling and waste reduction through display and signing.

A. Stores use in-store displays and signing to explain or promote products that have minimum packaging or are bulk

B. Highlight environmentally benign packaging

II. In-Store Educational Practices

A. Participate in state sponsored education programs

B. Monitor consumer attitudes on a continuing basis to determine expectations

C. Offer reusable and recyclable alternatives whenever possible

D. Offer bulk product and quantity purchase values

E. Promote multiple purchases of commodity/staple items or larger sizes

F. Devise ways and means to present bulk products

G. Promote or highlight packages that can be reused

III. Trade Association Participation

A. Trade associations offer industry education and demonstration projects beginning with a one day workshop to present media themes and support materials for retailers

B. Trade associations offer awards for best waste reduction programs in cooperation with the Department of Ecology

IV. Internal Recycling

A. Recycle all internal materials possible

B. Recycle all office paper and collected materials possible

C. Utilize all recycled material

D. Promote source separation by consumers and employees for recycling and composting

V. House Brand Packaging Specification

A. Follow the guidelines listed on page 19

Package Manufacturer Goals:

Following sufficient consumer and retailer (distributor) demand for more efficient packaging, manufacturers are expected to respond voluntarily with the following:

Package manufacturers will take a proactive stand on waste reduction and other environmental concerns.

I. Product and Package Design Standards

A. Manufacturers will adopt established packaging standards

B. A nationally accepted packaging logo system will be used

II. Manufacturer Waste Reduction Education Program

In addition to, and in support of the activities of the Western Regional Packaging Board, the following are recommended:

A. University research aimed at reducing packaging and understanding solid waste issues

B. Grants for university packaging schools that institute design and engineering curricula aimed the reduction of packaging waste

C. Creation of a database that does life cycle analyses of packaging options

D. Establishment of a library and data clearinghouse

APPENDIX A
MEMBERS OF THE PACKAGING TASK FORCE
by Subcommittee

For each subcommittee, the names of Packaging Task Force members appear in the left hand column. The names of their alternate(s) are in the right hand column. Committee chairs or co-chairs are indicated.

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Bruce Wishart of the Sierra Club and Ray Hoffman, formerly of the Washington Citizens for Recycling and currently of the City of Seattle, served on the Task Force from September, 1989 until March of 1990. Babs Baker served during her tenure as executive Director of the Washington Citizens For Recycling.

APPENDIX B
WESTERN REGIONAL PACKAGING BOARD CHARTER

THE WESTERN REGIONAL WASTE MINIMIZATION PACKAGING BOARD

The Task Force has concluded that as to make substantial and long term gains in the reduction of packaging, some mechanisms might be created. After considerable study it is recommended that a regional body be created with representation from the Western State Governments, possibly British Colombia, public interest groups, and the packaging industry. This body would be funded initially through membership fees, and function in a manner similar to the Source Reduction Council of CONEG (Coalition of Northeast Governors). The organization is described in more detail in the following pages, and would consist of a Steering Committee, an Operating Committee, and various Working Committees, a full time Director, and small staff. Included are the following:

Section I: Draft proposal, General Structure and Funding as drafted by Waste Reduction Sub-Committee

Section II: Executive Director and staff, and Working Committees and Action Item List

Section I: Draft proposal, General Structure and Funding Western Regional Waste Minimization Packaging Board

Guidelines & Principles

Background: More and more states and municipalities are struggling with packaging issues as part of managing their solid waste problems. They often begin with very little hard data or information about packaging or the packaging industry, and react in a broad variety of ways, ranging from outright packaging bans to commissioning joint government/industry/public interest groups to study the issue and make recommendations.

This puts increasing demands on all parties involved and leads to ill-informed decisions and management practices on occasion. Therefore, it has been concluded that it is in the best interest of the public and the packaging industry for the industry to undertake the ownership and management of these issues directly, and in essence, become self regulating for the long term public good. There are numerous parallels to this in a variety of contexts, such as the American Medical Association or Underwriters Laboratories for electrical equipment.

This document outlines the broad principles of a regional packaging board for consideration and refinement by all interested parties.

Objective: The overriding purpose of the Board is to promote voluntary package waste minimization by fabricators, producers, and sellers of packages and packaged goods. Waste minimization includes, but is not limited to, elimination of excessive packaging at the source and use of post-consumer recycled content and recycling.

Strategy: A regional board of package related firms, states and involved public interest groups to establish and promote good packaging waste minimization practices throughout all relevant areas of commerce. The initial focus would be on consumer retail packaging, and expand to commercial/light industry/institutional packaging over time.

Structure: The Board would consist of three tiers of organization - a steering committee, an operating committee, and working committees, as follows:

I. Steering Committee

1. Powers & Duties

A. Direction: Set the overall objectives and agenda for the Operating Committee annually, and review at least

semiannually.

B. Authority: Approve, disapprove, or modify recommendations of the Operating Committee prior to implementation.

C. Budget: Approve an annual budget, revise membership fees, and provide oversight on all expenditures and funding.

D. Staff Direction: Hire, administer, direct, and review the activities of the professional staff.

E. Meetings: Meet at least quarterly to review the Board and Operating Committee progress, staff inputs, and waste minimization results. Additional meetings may be called by the Chair at her/ his discretion. Quorum will consist of at least two thirds of Steering Committee membership as long as at least one business/ industry and one public interest member are present.

2. Composition and Terms

A. Membership: To ensure continuity, all members on the Steering Committee must be designated individuals, not simply representatives of the sponsoring organization.

1. State Representatives: The Committee must include one representative from each subscribing state up to and including six states. If more than six states subscribe, they will nominate six Steering Committee representatives from the Operating Committee. At least four states must subscribe for the Packaging Board to be functional.

2. Public Interest: Three total, nominated by the public interest Operating Committee members.

3. Business/Industry: Three total, nominated by the business/industry Operating Committee members.

B. Term: Steering Committee members will serve a minimum of two years. Resignations will be made in writing to the Steering Committee. New appointments, reappointments, and vacancies for business/industry or public interest groups will be nominated from the Operating Committee at the time

of the vacancy by those sectors.
To avoid complete turnover of the Steering Committee every two years, half of the state representatives and at least one business/industry and one public interest representative will have initial terms of one year, to be determined by consensus of their respective sectors.

C. Participation: Any Steering Committee member who fails to attend three meetings of the Steering Committee or Operating Committee per calendar year, or any two consecutive meetings of the Steering Committee or Operating Committee without unforeseeable extenuating circumstances (family death, weather delays, etc.) will be considered as having resigned membership from the Steering Committee and a replacement will be nominated at the next regularly scheduled meeting of the Operating Committee.

3. Operating Procedures

A. Leadership: The Steering Committee will select a chair and vice chair from its membership.

B. Meetings: The Committee shall meet at least quarterly to review board and committee progress, staff inputs, and waste minimization result. Additional meetings may be called by the Chair at her/his discretion.

C. Voting: The Steering Committee will seek to reach consensus on all decisions. However, when that is not possible, all decisions of Operating Committee recommendations will be confirmed by the two thirds vote of all Steering Committee members present, as long as at least one business/industry and one public interest representative votes with the majority. Administrative and procedural decisions will be made by simple majority.

D. Quorum: Quorum will consist of at least two thirds of Steering Committee membership as long as at least one business/industry and one public interest member are present.

II. Operating Committee

1. Powers and Duties

A. Direction: The Committee shall establish specific

programs and commission committees to pursue overall objectives set by the Steering Committee. These will specifically include, but not be limited to, the following:

1. Packaging Design/Handling Standards: Establishment of preferred packaging waste minimization guidelines.

2. Target/Tracking: Establishment of waste reduction targets for specific package types. The Subcommittee shall measure and report progress against these targets. Targets will include reuse, source reduction, recycling enhancement, recycle content growth, and other techniques for reducing packaging waste. An important part of this program is to identify particular packages, product or material segments that could make major contributions to waste minimization. Focused attention will be on preferred packaging practices, best available and new technologies.

3. Business/Industry Education: Design and conduct programs on the needs for waste minimization, preferred packaging design practices, examples of how to achieve it, and recognition of major accomplishments.

   The Committee shall develop and implement a packaging design school/scholarship grant program to encourage the study of good packaging design within a regional university.

4. Hotline Resource: Establishment of an 800 number available to members and subscribing states to answer questions.

5. Labeling: Establishment of common definitions for packaging related environmental terms such as recyclable or source reduction. Establish a system of logos which may be used by business and industry whose packaging meets the definition.

6. Awards: Awards given for packaging which meets or exceeds the targets set under 2) above. Guidelines for a self-supporting awards program shall be developed compatible with the Packaging Award Guidelines developed by the Washington State Packaging Task Force.

B. Authority: The Committee shall approve, disapprove, or modify recommendations of committees prior to implementations.

C. Meetings: The Steering Committee shall meet at least quarterly to review committee progress, staff inputs, and waste minimization results. Additional meetings may be called by the Chairman at his/her discretion. Quorum will consist of at least two thirds of active Operating Committee membership as long as at least one business/industry and one public interest member are present.

2. Composition and Terms

A. Membership:

1. States: States may join by paying the appropriate Board level membership fee (See Funding). At least four states must subscribe for the Packaging Board to be functional.

2. Business/Industrial: Representatives of package manufacture, packaged product manufacture, packaging materials manufacture, package or packaged product transportation/wholesale/retail, or secondary materials (including recyclers, composters, waste collection, and waste disposal firms) may join by paying the appropriate Board level membership fee (See funding).

3. Public Interest: Representatives of consumer, civic, or environmental public interest groups may join by paying the appropriate Board level membership fee (See Funding).

4. Associate Members: State, business/industry, or public interest groups may join by paying the appropriate associate level membership fee (See Funding). They may attend Operating Committee meetings, but cannot vote.

B. Term: Operating Committee members will continue to serve by paying their appropriate Board level membership fee. Non payment of the fee will be considered an automatic resignation.

C. Participation: Any Operating Committee member who fails to attend three meetings of the Operating Committee per calendar year, or any two consecutive

meetings of the Operating Committee without unforeseeable extenuating circumstances (family death, weather delays, etc.) will be considered as being inactive and nonvoting, and will be removed from quorum establishment requirements. Voting and quorum rights will be re-established after attendance of one Operating Committee meeting.

3. Operating Procedures

A. Leadership: The Operating Committee will select a chair and vice chair annually from its membership.

B. Meetings: The Operating Committee will meet at least quarterly to review committee progress, staff inputs, and waste minimization results. Additional meetings may be called by the Chair at her/his discretion.

C. Voting: The Operating Committee will seek to reach consensus on all decisions. The decisions on committee recommendations will be confirmed by a two thirds vote of all active Operating Committee members present, so long as at least one business/ industry and one public interest representative votes with the majority. All other decisions will be made by simple majority if consensus cannot be reached.

D. Quorum: Quorum will consist of at least two thirds of active Operating Committee membership as long as at least one business/ industry and one public interest member are present.

III. Working Committees

1. Responsibilities:

A. Program Development: Develop specific programs at the direction of the Operating Committee for such things as preferred guidelines, industry education, or target setting and tracking.

B. Recommendations: The Committee shall recommend the execution of specific program elements to the Operating Committee.

2. Composition and Terms:

A. Membership: All committees will be initially commissioned by the Operating Committee and members shall be appointed by its Chairperson, but must

include at least one member from each sector. However, the chair may specifically recruit additional participants as needed with approval from the Operating Committee

Chairperson may request additional participants from Member states, firms, or public interest groups to designate additional people to represent them on specific committees to provide particular expertise, balance, and bring additional people to represent them on specific committees to provide particular expertise, balance, and bring additional resources to the committee. Associate members selected to serve on a committee will carry full voting rights on that committee.

B. Term: Committee members will continue to serve by paying their appropriate board level membership fee and participating in committee activities.

C. Participation: Any Working Committee member who fails to attend three meetings of their committee per calendar year, or any two consecutive meetings of the Working Committee without unforeseeable extenuating circumstances (family death, weather delays, etc.) will be considered as being inactive and nonvoting, and will be removed from the quorum establishment requirements. Voting rights will be reestablished after attendance of one Committee meeting.

3. Operating Procedures

A. Leadership: Each Committee will select a chair and vice chair annually from its membership. Any Working Committee Chair who fails to attend three meetings of their committee per calendar year, or any two consecutive meetings of the Operating Committee without unforeseeable extenuating circumstances (family death, weather delays, etc.) will be removed from their chair position and a new one will be selected.

Working Committees may choose to organize themselves into smaller sub-committees for the pursuit of specific objectives or tasks.

B. Meetings: All committee meetings will be called by the Chair at her/his discretion as needed to meet the Committee's objectives and commitments.

C. Voting: Committees will seek to reach consensus on

all major decisions. However, when that is not possible, decisions will be made by simple majority of Working Committee members present.

D. Quorum: Quorum will consist of at least two thirds of Committee membership as long as at least one business/industry and one public interest member are present.

IV. Funding: The Packaging Board will be 100 percent member/user funded via the payment of annual dues per the schedule below. In addition, some programs might also involve additional fees to cover costs such as extensive education programs for single firms or in-depth package reviews. An annual budget of approximately $300,000 is anticipated, with one-time start-up costs of approximately $40,000.

1. Operating Membership: Annual Fees (Operating & Steering Committee (if members - Voting Rights)

A. States

** To be determined

B. Business/Industry (Private firms only)

** To be determined as a percent of sales with a maximum

C. Public Interest Groups

** To be determined as a percent of regional revenue with a maximum, and an expense compensation mechanism so participants do not have to personally finance participation

2. Associate Membership Annual Fee: (Working Committee Voting Rights if appointed)

A. States (outside Western Region)

** To be determined, but at a rate lower than operating membership

B. Business/Industry

** To be determined as a percent of sales with a maximum, but at a lower rate than operating membership

C. Public Interest Groups

** To be determined as a percent of regional revenue with a maximum, but at a lower rate than operating membership, and an expense compensation mechanism so participants do not have to personally finance participation

D. Trade Associations

** Flat fee, to be determined

Section II: Executive Director and staff, and Working Committees and Action Item List:

EXECUTIVE DIRECTOR AND STAFF

A full time director and clerical staff, as appropriate, will be employed at the discretion of the Steering Committee. Among the Executive Director's duties will be:

1. Recruitment of members to include a broad spectrum of packaging material manufacturers, converters, designers, and allied industries marketing goods in the region. A broad based membership is essential to provide the technical input and the depth of understanding to achieve desired results.

2. Overpackaging Hotline--Investigate inquiries and concerns of specific overpackaging situations. Staff would handle either telephoned or written inquiries. These, whether written or oral, would be assigned by the director for investigation to the appropriate working committee with a report and recommendation sent to the Operating Committee in a timely manner.

3. Maintain a library of packaging technology information for the use of member state agencies, public interest groups, news media, and the public at large. It is assumed that resources will be primarily furnished by member agencies of the various packaging material groups.

4. Packaging reduction through design. Administer a grant/ scholarship program for packaging design and education. This function is intended to establish a packaging design school within the region, but may initially be limited to grants or scholarships.

WORKING COMMITTEES AND ACTION ITEMS

It is deemed that the Organization will create various working committees and subcommittees as appropriate to deal with specific problems. Working Committees will draw principally upon industry and public members who have direct connection or interest in an assigned task. Certain committees, because of their ongoing nature, might be deemed as Standing Committees. The following are possible examples:

I. TERTIARY PACKAGING

This committee would deal primarily with packaging not visible to the general public. It may include members of the corrugated box industry, transportation companies, packaging designers and manufacturers, or distributors of large durable goods, such as electronics or appliances.

Possible Action Items

A. Pursue changes to Rule #41 of the National Railroad Freight Committee and Item #22 of National Motor Freight Traffic Association, which would allow lightweighting of corrugated containers, subject to good recycling and toxic waste reduction principles (See Appendix C).

B. Develop a system to encourage major appliance distributors to assist customers in the recycling of appliance containers and bulk packaging materials.

II. DISPOSABLE FOOD SERVICE PACKAGING

This committee may be comprised of users of fast food packaging, such as quick service restaurants; schools, hospitals, and other institutional food servers; manufacturers of paper, plastic, and foil food service packaging; distributors of food service packaging; and, recyclers.

Possible Action Items

A. Reduce volume of single service packaging through improved design and lightweighting.

B. Enhance recyclability by improved materials or design.

C. Enhance recyclability through involvement of distribution systems or other available means.

D. Develop system to encourage return of take out packaging for recycling.

III. BEVERAGE INDUSTRY

This committee may be composed of carbonated and non-carbonated

beverage packagers; beer and juice packagers; dairy industry; manufacturers of aluminum, steel, plastic, and glass beverage containers.

Possible Action Items

A. Encourage continuation of current high standards of recycling from the soft drink and malt beverage industry.

B. Track technological improvements on lightweighting and beverage packaging.

C. Improve recycling of plastic non-carbonated beverage packaging.

IV. PACKAGING ELIMINATION THROUGH BULK SALES

Subcommittee A--To investigate elimination of distribution packaging through bulk deliveries, such as tanker deliveries of beverage syrup, etc.

Subcommittee B--Bulk sales at retail. This committee would investigate technologies for improving bulk sales of food and non-food at the retail level.

Possible Action Items

A. Track available technologies for tamper proof, sanitary sale of food stuffs at retail.

B. Have available a list of suppliers producing such equipment.

C. Survey retailers for types of vending equipment which they would use if available, and make this information known to prospective vendors.

D. Create similar study for non-food industries.

E. Encourage use of refillable packaging.

V. FROZEN FOOD PACKAGING

This committee may be composed of manufacturers of frozen food products, frozen food packaging, retail grocers, and wholesale frozen food distributors.

Possible Action Items

A. Reduce volume of frozen food entree packaging through improved design, pouch-type refills, or other improved design techniques.

B. Encourage use of only recyclable materials in dual ovenable trays.

VI. HARDWARE & NON-FOOD ITEMS

This committee might be composed of manufacturers, retailers, and distributors of hardware, housewares, and other small items commonly sold on rack displays and in blister packaging.

Possible Action Items

A. Encourage lightweighting and a system of minimum and maximum size for blister packaging.

B. Encourage single material blister packaging to enhance recyclability.

C. Apply vending machine technology to eliminate pilferage.

VII. COSMETICS, HEALTH AND BEAUTY AIDS

This committee might be composed of retailers/distributors, manufacturers of cosmetics, and manufacturers of packaging.

Possible Actions Items

A. Eliminate use of multiple packaging.

B. Reduce tertiary packaging through use of efficient packaging shapes.

C. Encourage use of refillable packaging.

The above is not intended to be a complete list of strategies or of working committees, but only to site some examples of immediate plans of action. Actual working committees will be created through the actions of committees.

APPENDIX C
ACTIVITIES RELATING TO LIGHTWEIGHTING OF CORRUGATED CONTAINERS USED IN SHIPPING BY COMMON CARRIER

The Packaging Task Force projects that lightweighting of corrugated containers used in shipping by common carrier could reduce the weight of each container by about ten percent. Because this weight is so substantial, the Packaging Task Force feels that immediate action is warranted. The Task Force is organizing a national coalition to bring about changes in regulations that will allow lightweighting. The following letter has been sent to a variety of packaging, solid waste, and environmental interests:

TO: Interested Parties

FROM: Mike Smith and Kitty Gillespie, Members of the Washington State Packaging Task Force

RE: Changing the Regulatory Standards for Corrugated Containers Shipped by Common Carrier

We are writing on behalf of the Washington State Packaging Task Force to ask for your help and support in changing the standards set by railroad and trucking industries for corrugated containers shipped by common carrier. The Packaging Task Force was established by the Washington State Legislature to evaluate methods to reduce the volume, weight and toxicity of packaging entering the waste stream. Corrugated containers are 11.2 percent of all waste generated in Washington State, and 42.6 percent of packaging waste. Nationally, corrugated containers are 8 percent of total discards. Lightweighting of corrugated is an essential component of our solid waste management strategy.

The existing rules governing manufacture of corrugated containers used in shipping by common carrier were written during the early 1900's in response to a shipping environment in which boxes were tossed around. To protect the product, a burst test was developed to measure the strength of the box from the inside out, and required that a certain amount of fiber be used in each box. Today's shipping environment, in which containers are stacked several high, calls for a different standard. Containers must be strong from the outside in. A compression test should become the new standard.

Moving away from the current basis weight standard toward a performance standard would allow fiber reduction without functional sacrifice. The test of corrugated containers proposed by ASTM (enclosed) and based on compression strength will achieve the original purpose of Rule 41 while minimizing the amount of fiber that must be landfilled. We endorse this change, provided, that the substitute box should demonstrate at least the current repulpability and exhibit no greater toxicity. We urge your

support, also.

We plan to contact the regulators and, if necessary, call for Congressional hearings on this matter. Please fill out the enclosed card letting us know how you can help.

If you need more information on this topic, or have any other questions, please contact Kitty Gillespie at (206) 438-7771.

A card requesting the following information was enclosed:

Name _____

Company _____

Address _____

_____

Phone: ( ) _____

My company does____ does not____ ship product by common carrier.

I would be willing to help in the following ways:

_____ Writing to Trucking and Railroad Regulators

_____ Writing to members of my Congressional delegation

_____ Giving testimony before Congressional committees

APPENDIX D
DRAFT RIGID PLASTIC CONTAINER CODING LEGISLATION

1 AN ACT Relating to labelling rigid plastic resin containers; adding
2 new sections to chapter 70.95C RCW; and prescribing penalties.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

4 NEW SECTION. Sec. 1. Unless the context clearly requires
5 otherwise, the definitions in this section apply throughout sections
6 2 and 3 of this act.
7 (1) "Container," unless otherwise specified, refers to "rigid
8 plastic container" or "plastic bottle" as those terms are defined in
9 this section.
10 (2) "Distributors" means those persons engaged in the distribution
11 of packaged goods for sale in the state of Washington, including
12 manufacturers, wholesalers, and retailers.
13 (3) "Label" means a molded, imprinted, or raised symbol on or near
14 the bottom of a plastic container or bottle.

(4) "Person" means an individual, sole proprietor, partnership, association, or other legal entity.

(5) "Plastic" means a material made of polymeric organic compounds and additives that can be shaped by flow.

(6) "Plastic bottle" means a plastic container intended for single use that has a neck that is smaller than the body of the container, accepts a screw-type, snap cap, or other closure and has a capacity of sixteen fluid ounces or more, but less than five gallons.

(7) "Rigid plastic container" means a formed or molded container, other than a bottle, intended for single use, composed predominantly of plastic resin, and having a relatively inflexible finite shape or form with a capacity of eight ounces or more but less than five gallons.

NEW SECTION. **Sec. 2.** (1) The provisions of this section and any rules adopted under this section shall be interpreted to conform with nationwide plastics industry standards.

(2) On or after January 1, 1992, no person may distribute, sell, or offer for sale in this state a plastic bottle or rigid plastic container unless the container is labeled with a code identifying the appropriate resin type used to produce the structure of the container. The code shall consist of a number placed within three triangulated arrows and letters placed below the triangle of arrows. The triangulated arrows shall be equilateral, formed by three arrows with the apex of each point of the triangle at the midpoint of each arrow, rounded with a short radius. The pointer (arrowhead) of each arrow shall be at the midpoint of each side of the triangle with a short gap separating the pointer from the base of the adjacent arrow. The triangle, formed by the three arrows curved at their midpoints shall

depict a clockwise path around the code number. The numbers and letters used shall be as follows:

(a) 1. = PETE (polyethylene terephthalate)

(b) 2. = HDPE (high density polyethylene)

(c) 3. = V (vinyl)

(d) 4. = LDPE (low density polyethylene)

(e) 5. = PP (polypropylene)

(f) 6. = PS (polystyrene)

(g) 7. = OTHER

NEW SECTION. **Sec. 3.** (1) After being notified that a plastic container does not comply with section 2 of this act, a person who violates section 2 of this act is subject to a civil penalty of fifty dollars for each violation up to a maximum of five hundred dollars and may be enjoined from continuing violations. Each distribution constitutes a separate offense.

(2) Distributors shall have two years from the effective date of this act to clear current inventory, delivered or received and held in their possession as of the effective date of this act. Distributors shall not be subject to subsection (1) of this section for sale of such inventory.

NEW SECTION. **Sec. 4.** Sections 1 through 3 of this act are each added to chapter 70.95C RCW.

APPENDIX E
DRAFT FLEXIBLE PLASTIC PACKAGING CODING LEGISLATION

1 AN ACT Relating to voluntary labelling of flexible plastic resin
2 packaging; and adding new sections to chapter 70.95C RCW.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

4 NEW SECTION. **Sec. 1.** A new section is added to chapter 70.95C RCW
5 to read as follows:
6 As used in section 2 of this act:
7 (1) "Flexible plastic" means a film intended for single use
8 composed predominantly of plastic resin and having a relatively
9 flexible finite shape or form.
10 (2) "Person" means an individual, sole proprietor, partnership,
11 association, or other legal entity.
12 (3) "Plastic" means a material made of polymeric organic compounds
13 and additives that can be shaped by flow.

1 NEW SECTION. Sec. 2. A new section is added to chapter 70.95C RCW
2 to read as follows:
3 (1) Manufacturers shall be encouraged to offer for sale in this
4 state flexible packaging labeled with a code identifying the
5 appropriate resin type used to produce the structure of the package.
6 The code shall consist of a number placed within three triangulated
7 arrows and letters placed below the triangle of arrows. The
8 triangulated arrows shall be equilateral, formed by three arrows with
9 the apex of each point of the triangle at the midpoint of each arrow,
10 rounded with a short radius. The pointer (arrowhead) of each arrow
11 shall be at the midpoint of each side of the triangle with a short gap
12 separating the pointer from the base of the adjacent arrow. The
13 triangle, formed by the three arrows curved at their midpoints shall
14 depict a clockwise path around the code number. The numbers and
15 letters used shall be as follows:
16 (a) 1. = PETE (polyethylene terephthalate)
17 (b) 2. = HDPE (high density polyethylene)
18 (c) 3. = V (vinyl)
19 (d) 4. = LDPE (low density polyethylene)
20 (e) 5. = PP (polypropylene)
21 (f) 6. = PS (polystyrene)
22 (g) 7. = OTHER
23 A coding system for flexible plastic packaging adopted by a
24 national trade association of flexible plastic packaging manufacturers
25 shall supersede this voluntary standard.
26 (2) The department shall maintain a list of the label code provided
27 in subsection (1) of this section and shall provide a copy of that list
28 to any person upon request.

APPENDIX F
DRAFT PACKAGING COUNCIL LEGISLATION

1 AN ACT Relating to source reduction, waste reduction, and recycling
2 of product packages; amending RCW 70.95.260, 70.95C.020, 70.95C.090,
3 70.95.280, and 43.21A.520; adding new sections to chapter 70.95C RCW;
4 and prescribing penalties.

5 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

6 Sec. 1. RCW 70.95.260 and 1989 c 431 s 9 are each amended to read
7 as follows:
8 The department shall in addition to its other powers and duties:
9 (1) Cooperate with the appropriate federal, state, interstate and
10 local units of government and with appropriate private organizations
11 in carrying out the provisions of this chapter.
12 (2) Coordinate the development of a solid waste management plan for
13 all areas of the state in cooperation with local government, the
14 department of community development, <u>the packaging council,</u> and other

appropriate state and regional agencies. The plan shall relate to solid waste management for twenty years in the future and shall be reviewed biennially, revised as necessary, and extended so that perpetually the plan shall look to the future for twenty years as a guide in carrying out a state coordinated solid waste management program. The plan shall identify a preferred strategy for attaining the recycling goal identified in RCW 70.95.010(9), including but not limited to:

(a) Materials identified in the "Best Management Practices Analysis for Solid Waste" (department of ecology publication number 88-33) or other materials that the department deems appropriate; and

(b) Target recycling rates for each material for each year up to and including the year for which the goal is projected.

The plan shall be developed into a single integrated document and shall be adopted no later than October 1990. The packaging council shall collaborate in establishing the target recycling rates under (b) and (c) of this subsection. The plan shall be revised regularly after its initial completion so that local governments revising local comprehensive solid waste management plans can take advantage of the data and analysis in the state plan.

(3) Provide technical assistance to any person as well as to cities, counties, and industries.

(4) Initiate, conduct, and support research, demonstration projects, and investigations, and coordinate research programs pertaining to solid waste management systems.

(5) Develop state-wide programs to increase public awareness of and participation in tire recycling, and to stimulate and encourage local private tire recycling centers and public participation in tire recycling.

(6) May, under the provisions of the Administrative Procedure Act, chapter 34.05 RCW, as now or hereafter amended, from time to time promulgate such rules and regulations as are necessary to carry out the purposes of this chapter.

Sec. 2. RCW 70.95C.020 and 1990 c 114 s 2 are each amended to read as follows:

As used in this chapter, the following terms have the meanings indicated unless the context clearly requires otherwise.

(1) "Department" means the department of ecology.

(2) "Director" means the director of the department of ecology or the director's designee.

(3) "Dangerous waste" shall have the same definition as set forth in RCW 70.105.010(5) and shall specifically include those wastes designated as dangerous by rules adopted pursuant to chapter 70.105 RCW.

(4) "Disposed waste" means waste that is not recycled.

(5) "Distribution system" means a system of delivering a product to market or user.

(6) "Environmentally beneficial claim" means a logo on or an assertion made about a package, either on the package itself, or in related advertising, indicating, implicitly or explicitly, that the package restores the environment, does less environmental damage than other packages, or does no environmental damage at all.

(7) "EPA/state identification number" means the number assigned by the EPA (environmental protection agency) or by the department of ecology to each generator and/or transporter and treatment, storage, and/or disposal facility.

((~~(5)~~)) (8) "Extremely hazardous waste" shall have the same definition as set forth in RCW 70.105.010(6) and shall specifically

include those wastes designated as extremely hazardous by rules adopted pursuant to chapter 70.105 RCW.

((~~(6)~~)) (9) "Fee" means the annual hazardous waste fees imposed under RCW 70.95E.020 and 70.95E.030.

((~~(7)~~)) (10) "Generate" means any act or process which produces hazardous waste or first causes a hazardous waste to become subject to regulation.

((~~(8)~~)) (11) "Hazardous substance" means any hazardous substance listed as a hazardous substance as of March 21, 1990, pursuant to section 313 of Title III of the Superfund Amendments and Reauthorization Act, any other substance determined by the director by rule to present a threat to human health or the environment, and all ozone depleting compounds as defined by the Montreal Protocol of October 1987.

((~~(9)~~)) (12) (a) "Hazardous substance use reduction" means the reduction, avoidance, or elimination of the use or production of hazardous substances without creating substantial new risks to human health or the environment.

(b) "Hazardous substance use reduction" includes proportionate changes in the usage of hazardous substances as the usage of a hazardous substance or hazardous substances changes as a result of production changes or other business changes.

((~~(10)~~)) (13) "Hazardous substance user" means any facility required to report under section 313 of Title III of the Superfund Amendments and Reauthorization Act, except for those facilities which only distribute or use fertilizers or pesticides intended for commercial agricultural applications.

((~~(11)~~)) (14) "Hazardous waste" means and includes all dangerous and extremely hazardous wastes, but does not include radioactive wastes or a substance composed of both radioactive and hazardous components

and does not include any hazardous waste generated as a result of a remedial action under state or federal law.

((~~(12)~~)) (15) "Hazardous waste generator" means any person generating hazardous waste regulated by the department.

((~~(13)~~)) (16) "Office" means the office of waste reduction.

((~~(14)~~)) (17) "Package" or "packaging" means a container providing a means of marketing, protecting, or handling a product and shall include a unit package, an intermediate package, and a shipping container as defined in "Standard Terminology of Packaging and Distribution Environments" (American Society for Testing and Materials, designation: D996-90). "Package" also means and includes such unsealed receptacles as carrying cases, crates, cups, pails, rigid foil and other trays, wrappers and wrapping films, bags, and tubs.

(18) "Plan" means the plan provided for in RCW 70.95C.200.

((~~(15)~~)) (19) "Person" means an individual, trust, firm, joint stock company, partnership, association, state, public or private or municipal corporation, commission, political subdivision of a state, interstate body, the federal government, including any agency or officer thereof, and any Indian tribe or authorized tribal organization.

((~~(16)~~)) (20) "Postconsumer recovered material" means only those products generated by a business or consumer that have served their intended end uses, and that have been diverted from the solid waste stream. Postconsumer recovered material means broker recovered material, but does not mean mill broke that is any in-plant production waste that is returned to the production line and does not leave the possession of the producer.

(21) "Process" means all industrial, commercial, production, and other processes that result in the generation of waste.

((~~(17)~~)) (22) "Recycled for beneficial use" means the use of hazardous waste, either before or after reclamation, as a substitute for a commercial product or raw material, but does not include: (a) Use constituting disposal; (b) incineration; or (c) use as a fuel.

((~~(18)~~)) (23) "Recycling" means reusing waste materials and extracting valuable materials from a waste stream. Recycling does not include burning for energy recovery.

((~~(19)~~)) (24) "Treatment" means the physical, chemical, or biological processing of waste to render it completely innocuous, produce a recyclable by-product, reduce toxicity, or substantially reduce the volume of material requiring disposal as described in the priorities established in RCW 70.105.150. Treatment does not include incineration.

((~~(20)~~)) (25) "Waste" means any solid waste as defined under RCW 70.95.030, any hazardous waste, any air contaminant as defined under RCW 70.94.030, and any organic or inorganic matter that shall cause or tend to cause water pollution as defined under RCW 90.48.020.

((~~(21)~~)) (26) "Waste generator" means any individual, business, government agency, or any other organization that generates waste.

((~~(22)~~)) (27) "Waste reduction" means all in-plant practices that reduce, avoid, or eliminate the generation of wastes or the toxicity of wastes, prior to generation, without creating substantial new risks to human health or the environment. As used in RCW 70.95C.200 through 70.95C.240, "waste reduction" refers to hazardous waste only.

Sec. 3. RCW 70.95C.090 and 1989 c 431 s 48 are each amended to read as follows:

((~~(1) The office shall establish a product packaging task force. The purpose of the task force shall be to investigate and evaluate methods to:~~

~~(a) Reduce the volume or weight, or both, of product packaging entering the waste stream;~~

~~(b) Reduce the toxicity of product packaging entering the waste stream;~~

~~(c) Reduce the reliance on single use, disposable packaging;~~

~~(d) Increase product packaging recycling; and~~

~~(e) Increase public awareness of the contribution of packaging to the solid waste problem.~~)) There is established in the office of waste reduction a packaging council. In fulfilling the purpose of this section the council shall consider all applicable federal and state packaging standards and requirements. The council shall coordinate with, and may be a member of, the leading regional or national groups, or both, engaged in developing public policy for package waste reduction.

The purpose of the council shall be to review state, regional, and national trends in product packaging, and to recommend to the legislature actions that can be taken to:

(1) Increase the institution of reusable packaging systems in which a package is used several times for the same or substantially similar purpose;

(2) Reduce the reliance on single use, disposable packaging;

(3) Reduce the volume or weight, or both, of product packaging. Washington state should attain a ten percent reduction in the weight of per capita packaging waste generated in 1993 and reported in 1994, as reported by waste stream sampling conducted by the department, and compared to the same data collected in 1987 and identified in the "Best Management Practices Analysis for Solid Waste" (department of ecology publication number 88-33). The ten percent reduction shall be increased by two percent per annum through 1998, and shall result in a twenty percent reduction in packaging waste between 1987 and 1998.

Lacking substantial progress toward this goal as reported in the 1993 report on waste stream sampling by a regional or national group, the council shall recommend to the 1995 legislature actions to achieve this goal;

(4) Reduce the toxicity of product packaging, considering overall environmental and toxicological impacts, and recommend to the legislature the banning of toxic constituents in packaging;

(5) Increase product packaging recycling, identify target recycling rates for materials used in packaging, and increase the use of postconsumer recycled content in packaging; and

(6) Advise the department on provision of a five-year education strategy to increase public awareness of the contribution of packaging to the solid waste problem.

In fulfilling the purpose of this ((~~subsection~~)) section, the ((~~task force~~)) council shall consider all applicable federal and state packaging standards and requirements. ((~~The task force shall coordinate with regional or national groups, or both, engaged in evaluating packaging issues.~~)) The staff for the council shall coordinate with the leading regional or national packaging board or boards, or both, engaged in developing public policy for package waste reduction. The council shall monitor the activities and progress of such regional or national board or boards, shall recommend specific work tasks, performance of which would satisfy the research and information needs of the council and the state, and shall vote annually on whether to subscribe to such board or boards. Any standards recommended by ((~~this task force~~)) the council must consider available packaging materials, packaging weight or volume, or both, and educational package labeling.

((~~The task force shall involve representatives from the department of trade and economic development, the department of ecology, the public, local governments, environmental associations, and industry,~~

~~including but not limited to, product and packaging manufacturers, retail businesses, solid waste collection companies, and recycling businesses. However, fifty percent of the task force appointees shall be representative of industry.~~

~~The task force shall submit an action plan, including short and long range recommendations, to achieve the purposes of this subsection to the legislature by January 2, 1991. The task force shall be terminated upon submittal of the plan to the legislature.~~

~~(2) The task force shall submit guidelines on product packaging to the environmental excellence product award subcommittee for purposes of the environmental excellence product award program by January 2, 1990.~~)) If regional or national packaging standards exist that achieve the reduction in packaging per capita identified in subsection (3) of this section, they shall supersede similar standards developed by the packaging council.

The packaging council shall be comprised of fifteen members with equal representation of industry, government, and the public. In appointing the membership of the council, the director shall consider including representatives of the department of trade and economic development, the department of ecology, environmental interests, and public health and industry interests, including but not limited to product and packaging manufacturers, distributors, retail businesses, solid waste collection companies, and recycling businesses. An unlimited number of associate members who possess technical expertise required for the council to perform its work may be included. Associate membership shall include but not be limited to a representative of each primary material used in packaging.

The council shall meet at least quarterly.

The council shall use, as its baseline plan, the action plan submitted to the 1991 legislature pursuant to chapter 431, Laws of

1989. On September 1, 1992, and annually thereafter, the council shall report to the house of representatives and senate standing committees on the environment. Each report shall include the progress made during the previous year toward implementation of the packaging action plan submitted in 1991, as well as recommendations relating to packaging, as warranted. The report shall include, but not be limited to the minimum target recycling rates for packaging materials listed in the state solid waste management plan for the year in which the goal is projected and for each year prior to the year in which the goal is projected. In addition, the council shall set a target recycling rate for "all other packaging materials" not identified in the state solid waste management plan.

NEW SECTION. **Sec. 4.** If a claim is made on a package, or in any advertising about the package, that it is environmentally beneficial, the specific reason for that claim must be printed next to the claim in letters at least as large as the claim. To make the claim that a package is made from recycled material, the package must be made of at least twenty-five percent postconsumer recovered material measured by weight. Alternately, a package may carry a statement identifying the percent of recovered material measured by weight. This section shall be superseded by more stringent federal regulations if any are enacted.

NEW SECTION. **Sec. 5.** (1) Two years after the effective date of this section, all packages manufactured, sold, or distributed in this state shall contain postconsumer recovered materials in amounts at least as great as the levels set by the packaging council in its annual reports. A package that satisfies one or more of the following criterion shall be exempt from the requirements imposed under this section a package:

(a) That has been used five times in the same or a substantially similar distribution system;

(b) For which the manufacturer demonstrates that waste reduction or source reduction necessitates use of virgin materials;

(c) For which there is no supply of postconsumer recycled materials; or

(d) That is prohibited by state rules or federal regulations from incorporating postconsumer recovered materials in its manufacture.

(2) As soon as feasible but not later than two years after the effective date of this section, a certificate of compliance stating that a package or packaging component is in compliance with the requirements of this chapter shall be developed by its manufacturer, and shall identify the amount of postconsumer recovered material measured by weight and expressed as a percent of total package weight, except that, where compliance is achieved under the exemptions provided in subsection (1) of this section, the certificate shall state the specific basis upon which the exemption is claimed. If the amount of postconsumer recovered material varies from batch to batch, the certificate shall state the average annual content amount. The certificate shall be signed by an authorized official of the manufacturing company. The certificate shall be kept on file by the manufacturer for as long as the package or packaging component is in use, and for three years from the date of the last sale or distribution by the manufacturer. Certificates of compliance, or copies thereof, shall be furnished to the department upon request within thirty days.

If the manufacturer or supplier of the package or packaging component reformulates or creates a new package or packaging component, the manufacturer shall develop an amended or new certificate of compliance for the reformulated or new package or packaging component.

1 (3) If manufacturers are required under any other state statute to
2 provide a certificate of compliance, one certificate may be developed
3 containing all required information.
4 (4) Any request from a member of the public for any certificate of
5 compliance shall be:
6 (a) Made in writing to the department;
7 (b) Made specific as to package or packaging component information
8 requested; and
9 (c) Responded to by the department within ninety days.
10 (5) The department may suspend the sale of any package for which
11 a manufacturer has failed to respond to a request by the department for
12 a certificate of compliance within the allotted period of time pursuant
13 to subsection (2) of this section. No enforcement actions may be taken
14 or asserted against a retailer for the sale or offer to sell packaging
15 that was delivered on or before the effective date of a proscription
16 on the sale or use of packaging material imposed in accordance with
17 this subsection.
18 (6) A manufacturer who continues to sell or use a packaging
19 material for which a certificate of compliance has been requested but
20 not provided, shall be subject to a civil penalty of fifty dollars for
21 each violation up to a maximum penalty of five hundred dollars and
22 shall be enjoined from continued violations.

23 NEW SECTION. **Sec. 6.** In each annual report, the council shall
24 set the minimum permissible levels of postconsumer recycled content
25 required in packaging for each of several packaging material types and
26 functions. In addition, the first annual report shall also include
27 recommendations regarding package labeling systems, and changes in the
28 flexible plastic coding system. Other recommendations relating to
29 packaging shall be made as the council deems appropriate.

1 In its 1996 report to the legislature, the council shall make a
2 specific recommendation concerning the council's continuation or
3 termination.

4 NEW SECTION. **Sec. 7.** (1) After July 1, 1993, a package or
5 packaging material that has achieved a recycling rate equal to or
6 greater than the target recycling rate for that material shall be
7 exempt from prohibitions on the sale or use of the package or packaging
8 material as set forth under this section. Any multimaterial packages
9 that are easily separable into components and that are recycled at
10 rates equal to or greater than the target recycling rate for each
11 component material shall be exempt from prohibitions on the sale or use
12 of the packaging material under this section. Multimaterial packages
13 that are not separable into components but that are recycled at rates
14 equal to or greater than "other packaging materials" as reported in the
15 annual report of the packaging council shall be exempt from
16 prohibitions on the sale or use of the packaging material as set forth
17 under this section.

18 (2) After July 1, 1993, no local or regional subdivision of the
19 state shall have authority to impose a prohibition on the sale or use
20 of a product packaging. The state shall have exclusive authority to
21 impose such prohibitions. The department of ecology is authorized to
22 impose prohibitions on the sale or use of packaging material as
23 provided in subsection (4) of this section. A person or political
24 subdivision of the state may petition the department to prohibit a
25 packaging material from sale or use in the state for failure to achieve
26 the target recycling rates as provided in subsection (4) of this
27 section.

28 (3) The department is authorized to identify packaging materials
29 that have failed to achieve target recycling rates for those materials

1 after July 1, 1993. The director may impose state-wide prohibitions
2 on the sale or use of a package or packaging material that has failed
3 to achieve recycling rates equal to or greater than the target
4 recycling rates established for that packaging material. Prohibitions
5 on the sale or use of a package or packaging materials must be imposed
6 by rules adopted under the administrative procedure act, chapter 34.05
7 RCW.

8 (4) In a proceeding under subsections (2) and (3) of this section,
9 the department may prohibit the sale or use of a packaging material
10 within the state of Washington if:

11 (a) The department establishes by relevant evidence that an
12 alternative package or packaging material is commercially viable for
13 substitution for the package or packaging material to be prohibited.
14 The state-wide recycling rate of the packaging material to be
15 substituted must be equal to or greater than the state-wide target
16 recycling rate established for that packaging material; and

17 (b) The department establishes by relevant evidence that there is
18 good cause to prohibit the sale or use of any package or packaging
19 material and that the substitution of the alternative packaging
20 material identified under (a) of this subsection does not compromise:
21 (i) Product integrity, or (ii) public health and safety, and (iii) that
22 the use of the substituted packaging material does not increase the net
23 weight or volume of disposed waste. For the purposes of this section,
24 a prima facie showing of good cause may be established by evidence that
25 a packaging material has failed to achieve the target recycling rate
26 established for that material.

27 (5) No enforcement actions for the sale or use of any packaging
28 material may be taken against any retailer of products within the state
29 of Washington for twenty-four months following the adoption of any rule

prohibiting the sale of any packaging material in accordance with subsections (2) and (3) of this section.

Sec. 8. RCW 70.95.280 and 1989 c 431 s 13 are each amended to read as follows:

The department of ecology shall determine the best management practices for categories of solid waste in accordance with the priority solid waste management methods established in RCW 70.95.010. In order to make this determination, the department shall conduct a comprehensive solid waste stream analysis and evaluation. Following establishment of baseline data resulting from an initial in-depth analysis of the waste stream, the department shall develop a less intensive method of monitoring the disposed waste stream including, but not limited to, changes in the amount of waste generated and waste type. <u>The department shall report on or before July 1 each year on the recycling rate of materials identified in the state solid waste management plan. The report shall include the weight of packaging on a per capita basis. In 1993 and 1997, and every five years thereafter, the department shall conduct in-depth measurements of the waste stream to reestablish baseline data to measure the per capita generation, recycling, and disposal of waste in Washington state.</u> The department shall monitor curbside collection programs and other waste segregation and disposal technologies to determine, to the extent possible, the effectiveness of these programs in terms of cost and participation, their applicability to other locations, and their implications regarding rules adopted under this chapter. Persons who collect solid waste shall annually report to the department the types and quantities of solid waste that are collected and where it is delivered. The department shall adopt guidelines for reporting and for keeping proprietary information confidential.

1 **Sec. 9.** RCW 43.21A.520 and 1989 c 431 s 47 are each amended to
2 read as follows:
3 (1) The department of ecology shall develop and implement an
4 environmental excellence awards program that recognizes products that
5 are produced((~~,~~)) <u>or</u> labeled((~~, or packaged~~)) in a manner that helps
6 ensure environmental protection. The award shall be in recognition of
7 products that are made from recycled materials, easy to recycle,
8 substitute for more hazardous products, or otherwise help protect the
9 environment. Application for the award shall be voluntary. The awards
10 may be made in a variety of product categories including, but not
11 limited to:
12 (a) Paint products;
13 (b) Cleaning products;
14 (c) Pest control products;
15 (d) Automotive, marine, and related maintenance products;
16 (e) Hobby and recreation products; and
17 (f) Any other product available for retail or wholesale sale.
18 (2) The state solid waste advisory committee shall establish an
19 environmental excellence product award subcommittee to develop and
20 recommend criteria for awarding environmental excellence awards for
21 products. The subcommittee shall also review award applications and
22 make recommendations to the department.
23 The subcommittee shall consist of equal representation of: (a) Product
24 manufacturing or other business representatives; (b) environmental
25 representatives; (c) labor or consumer representatives; and (d)
26 independent technical experts. Members of the subcommittee need not
27 necessarily be regular members of the state solid waste advisory
28 committee.

1 (3) The packaging council shall develop and implement an
2 environmental excellence awards program that recognizes packages that
3 are produced or labeled in a manner that helps ensure environmental
4 protection. The award shall be in recognition of packages that
5 significantly reduce waste and that are made from recycled materials,
6 are easy to recycle, substitute for more hazardous packages, or
7 otherwise help protect the environment. Application for the award
8 shall be voluntary.
9 (4) Products or packaging receiving an environmental excellence
10 award pursuant to this section shall be entitled to display a logo or
11 other symbol developed by the department to signify the award. Awards
12 shall be given each year to as many products and packages as qualify.
13 The award logo may be displayed for a period to be determined by the
14 department.

15 NEW SECTION. **Sec. 10.** Sections 4 through 7 of this act are
16 each added to chapter 70.95C RCW.

APPENDIX G
MODEL TOXICS LEGISLATION

1

2 AN ACT Relating to heavy metals in packaging; adding a new chapter
3 to Title 70 RCW; and declaring an emergency.

4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

5 NEW SECTION. Sec. 1. The legislature finds and declares that:
6 (1) The management of solid waste can pose a wide range of hazards
7 to public health and safety and to the environment;
8 (2) Packaging comprises a significant percentage of the overall
9 solid waste stream;
10 (3) The presence of heavy metals in packaging is a part of the
11 total concern in light of their likely presence in emissions or ash
12 when packaging is incinerated, or in leachate when packaging is
13 landfilled;

1 (4) Lead, mercury, cadmium, and hexavalent chromium, on the basis
2 of available scientific and medical evidence, are of particular
3 concern;

4 (5) It is desirable as a first step in reducing the toxicity of
5 packaging waste to eliminate the addition of these heavy metals to
6 packaging; and

7 (6) The intent of this chapter is to achieve this reduction in
8 toxicity without impeding or discouraging the expanded use of
9 postconsumer materials in the production of packaging and its
10 components.

11 NEW SECTION. **Sec. 2.** Unless the context clearly requires
12 otherwise, the definitions in this section apply throughout this
13 chapter.

14 (1) "Package" means a container providing a means of marketing,
15 protecting, or handling a product and shall include a unit package, an
16 intermediate package, and a shipping container as defined in ASTM D996.
17 "Package" also means and includes unsealed receptacles such as carrying
18 cases, crates, cups, pails, rigid foil and other trays, wrappers and
19 wrapping films, bags, and tubs.

20 (2) "Manufacturer" means a person, firm, or corporation who applies
21 a package to a product for distribution or sale.

22 (3) "Packaging component" means an individual assembled part of a
23 package such as, but not limited to, any interior or exterior blocking,
24 bracing, cushioning, weatherproofing, exterior strapping, coatings,
25 closures, inks, and labels.

26 NEW SECTION. **Sec. 3.** (1) As soon as feasible but not later than
27 two years after the effective date of this act, no package or packaging
28 component may be offered for sale or for promotional purposes by its

1 manufacturer or distributor in the state of Washington, that includes,
2 in the package itself or in any packaging component, inks, dyes,
3 pigments, adhesives, stabilizers, or any other additives, any lead,
4 cadmium, mercury, or hexavalent chromium that has been intentionally
5 introduced as an element during manufacturing or distribution as
6 opposed to the incidental presence of any of these elements.
7 (2) As soon as feasible but not later than two years after the
8 effective date of this act, no product shall be offered for sale or for
9 promotional purposes by its manufacturer or distributor in the state
10 of Washington in a package that includes, in the package itself or in
11 any of its packaging components, inks, dyes, pigments, adhesives,
12 stabilizers, or any other additives, any lead, cadmium, mercury, or
13 hexavalent chromium that has been intentionally introduced as an
14 element during manufacturing or distribution as opposed to the
15 incidental presence of any of these elements.
16 (3) The sum of the concentration levels of lead, cadmium, mercury,
17 and hexavalent chromium present in any package or packaging component
18 shall not exceed the following:
19 (a) 600 parts per million by weight effective two years after the
20 effective date of this act;
21 (b) 250 parts per million by weight effective three years after the
22 effective date of this act; and
23 (c) 100 parts per million by weight effective four years after the
24 effective date of this act.

25 NEW SECTION. Sec. 4. All packages and packaging components shall
26 be subject to this chapter except the following:
27 (1) Those packages or package components with a code indicating
28 date of manufacture that were manufactured prior to the effective date
29 of this act;

1 (2) Those packages or packaging components that have been purchased
2 by, delivered to, or are possessed by a retailer on or before twenty-
3 four months following the effective date of this act to permit
4 opportunity to clear existing inventory of the proscribed packaging
5 material;

6 (3) Those packages or packaging components to which lead, cadmium,
7 mercury, or hexavalent chromium have been added in the manufacturing,
8 forming, printing, or distribution process in order to comply with
9 health or safety requirements of federal law or for which there is no
10 feasible alternative; or

11 (4) Packages and packaging components that would not exceed the
12 maximum contaminant levels set forth in section 3(3) of this act but
13 for the addition of postconsumer materials; and provided that the
14 exemption for this subsection shall expire six years after the
15 effective date of this act.

16 NEW SECTION. **Sec. 5.** As soon as feasible but not later than two
17 years after the effective date of this act, a certificate of compliance
18 stating that a package or packaging component is in compliance with the
19 requirements of this chapter shall be developed by its manufacturer,
20 provided, however, where compliance is achieved under the exemption or
21 exemptions provided in section 4 (3) or (4) of this act, the
22 certificate shall state the specific basis upon which the exemption is
23 claimed. The certificate of compliance shall be signed by an
24 authorized official of the manufacturing company. The certificate of
25 compliance shall be kept on file by the manufacturer for as long as the
26 package or packaging component is in use, and for three years from the
27 date of the last sale or distribution by the manufacturer. Certificates
28 of compliance, or copies thereof, shall be furnished to the department
29 of ecology upon request within sixty days. If manufacturers are

1 required under any other state statute to provide a certificate of
2 compliance, one certificate may be developed containing all required
3 information.
4 If the manufacturer or supplier of the package or packaging
5 component reformulates or creates a new package or packaging component,
6 the manufacturer shall develop an amended or new certificate of
7 compliance for the reformulated or new package or packaging component.

8 NEW SECTION. **Sec. 6.** Requests from a member of the public for
9 any certificate of compliance shall be:
10 (1) Made in writing to the department of ecology;
11 (2) Made specific as to package or packaging component information
12 requested; and
13 (3) Responded to by the department of ecology within ninety days.

14 NEW SECTION. **Sec. 7.** The department of ecology may suspend the
15 sale of any package for which a manufacturer has failed to respond to
16 a request by the department for a certificate of compliance within the
17 allotted period of time pursuant to section 5 of this act.

18 NEW SECTION. **Sec. 8.** The packaging subcommittee of the solid
19 waste advisory committee shall review the effectiveness of this chapter
20 in its third annual report to the legislature. The report shall
21 contain recommendations to add other toxic substances contained in
22 packaging to the list set forth in this chapter, including but not
23 limited to mutagens, carcinogens, and teratogens, in order to further
24 reduce the toxicity of packaging waste, and shall contain a
25 recommendation regarding imposition of penalty for violation of section
26 3 of this act, and shall contain a recommendation whether to continue
27 the recycling exemption as it is provided for in section 4 of this act.

1 NEW SECTION. **Sec. 9.** This act is necessary for the immediate
2 preservation of the public peace, health, or safety, or support of the
3 state government and its existing public institutions, and shall take
4 effect immediately.

5 NEW SECTION. **Sec. 10.** Sections 1 through 8 of this act shall
6 constitute a new chapter in Title 70 RCW.

APPENDIX H
SUMMARY OF SCOPE OF A COMPREHENSIVE PACKAGING STUDY

The outline which follows is a preliminary description of the primary elements that would be addressed in a comprehensive assessment process for determining what specific environmental impacts to ascribe to each packaging material.

Components of Analysis:

I. Manufacturing Process

- A. Raw Material Extraction
  - 1. Direct environmental pollution
  - 2. Renewable vs. non-renewable resource
  - 3. Energy use
    - a. Process
    - b. Transport
  - 4. Waste generated
- B. Packaging Material Production
  - 1. Combined extraction impacts of each raw material ingredient
  - 2. Energy and pollution impacts
  - 3. Wastes generated
- C. Package Fabrication
  - 1. Combined impacts of all component materials
  - 2. Energy and pollution impacts
  - 3. Wastes generated

II. Marketing and Distribution Transport Costs

- A. Energy
- B. Environmental impacts

III. Post-consumer Collection and Disposal Pathways

A. Reuse

1. Collection and transport

a. Energy

b. Environmental pollution

2. Processing

a. Energy

b. Pollution

i. Water

ii. Air

3. Wastes generated

B. Recycling

1. Collection and transport

a. Energy

b. Environmental pollution

2. Re-processing (for materials leaving packaging stream)

a. Energy

b. Environmental pollution

c. Wastes generated

C. Landfilling

1. Collection and transport

a. Energy

b. Environmental pollution

2. Burying

1. Energy and pollution in operation

2. Environmental impacts

i. Air

ii. Water

iii. Soil

iv. Methane

D. Incineration

1. Collection and transport

a. Energy

b. Environmental pollution

2. Burning

a. Energy and pollution in operation

b. Environmental impacts

i. Air

ii. Water

3. Ash disposal

a. Energy and pollution in transportation

b. Environmental impacts

APPENDIX I
PACKAGING EDUCATION ACTION PLAN
(In its entirety)

This report presents the major goals and strategies recommended by the Packaging Task Force for a five year education plan aimed at changing the relevant behaviors of consumers and the roles played by consumers, retailers and other product distributors, and manufacturers. Part 1 presents an overview of the context in which these goals were developed. Part 2 presents the specific consumer behaviors we hope will be prevalent in Washington State in five years. Following, Part 3 identifies Media Strategies to educate the public about the how to's and benefits of the behaviors identified in Part 2. Part 4 identifies the role of retailers in supporting public education efforts, and Part 5 identifies the same for manufacturers. Government goals are presented in Part 6. Traditional public education activities are followed by non-traditional activities that government can initiate.

Goals and strategies are presented in outline form. The appendices offer in depth discussion of selected goals for readers wishing greater detail.

PART I: AN OVERVIEW OF PACKAGE WASTE REDUCTION GOALS AND STRATEGIES

Success in reducing excessive packaging waste depends on changes made in the institutional roles of consumers and manufacturers on either end of the supply-demand spectrum, with retailers and wholesale distributors mediating the relationship. In understanding these roles and how to change them, it is possible to assert that "Consumers get whatever manufacturers choose to supply them," or that "Manufacturers provide whatever consumers demand."

In developing an education action plan, the Packaging Task Force realizes that the truth lies in a combination of these two assertions. Consumers and manufacturers as well as the retailers and other intermediaries who distribute products must be active participants in reducing packaging waste. Consumers and the retailers and distributors who represent them to manufacturers must demand an end to packaging waste, and manufacturers must take initiative in providing it. The most effective changes will come about if changes are made at both ends of the supply-demand spectrum.

The Packaging Task Force has developed a proposal for a Regional Packaging Board. In significant part, the purpose of the Board is to educate packaging professionals about product and package design to minimize packaging waste, and to provide related support services. With this in mind, the present report includes only a cursory discussion of some of the important activities of the

Regional Packaging Board. The discussion is brief, not because manufacturing activities are unimportant, but because they are being addressed elsewhere.

The present report was based on the perspective of the demand end of the spectrum and developed according to the premise that "Manufacturers provide whatever consumers demand." Assuming that the universe of packaging is consumer driven, the Task Force identified consumer behaviors that it hopes will be instituted over the next five years. Once consumer goals were identified, supporting, secondary goals were identified for retailers, manufacturers, government and the media. By educating consumers about specific actions that they can take, it is anticipated that consumers, through their purchasing patterns, will induce manufacturers to change their product and package design practices voluntarily.

PART II: CONSUMER GOALS

Consumers will understand waste reduction and the reasons for it, and will be engaged in a number of behaviors that promote it.

I. Consumers will be shopping selectively (precycling).

A. Shop for the least packaging

1. Select items with no packaging, whenever possible
2. Select minimally packaged products
3. Avoid products with unnecessary layers of packaging
4. When shopping, compare packaging choices for a given product
5. Consider the true cost of convenience, both financial and environmental
6. Consider the true cost of disposal, both financial and environmental
7. Consider buying non-perishable goods in larger packages

B. Shop for recyclable packaging

1. Know what's recyclable in your community
2. Buy what's recyclable
3. Request recyclable packaging from retailers and manufacturers
4. Avoid packages with bonded layers of packaging

C. Shop for packaging made of recycled material

1. Look for the recycled material logo or labeling
2. Help create markets for recyclables by buying packaging made of recyclable material

D. Shop for reusable containers

1. Bring back refillable containers
2. Buy containers that have other uses
3. Buy squeeze bottles and spray bottles once; refill from a recyclable container

E. Shop from bulk delivery systems

1. Notice what's offered in bulk
2. Bring back your own packaging for bulk buying
3. Buy exactly the amount you want
4. Notice the cost savings with bulk buying

II. Consumers will be reusing packaging

A. Reuse packaging for shopping

1. Bring your own shopping bag: cloth, paper, or plastic
2. Bring back bags or containers for bulk shopping, produce shopping, and for the delicatessen
3. Bring back containers for liquid refilling

B. Reuse packaging at home

1. Reuse containers, including convenience containers (bags, jars, covered cans, spray bottles, squeezable bottles, microwave containers)
2. Reuse packaging products (foam peanuts, tissue paper, bubble pack)
3. Home package foods for work or school (make your own single servings)

C. Avoid disposable packaging at work

1. Take your own mug or glass to work
2. Reuse your cloth, paper, or plastic lunch bag, or take a lunch bucket
3. Keep a plate, microwave dish or utensils at work
4. Encourage your place of work to purchase reusable dinnerware and mugs
5. Keep a mug in your car

PART III: MEDIA STRATEGIES (See Appendix J)

I. General education strategies

A. A singular theme of waste reduction should be maintained throughout the campaign with a goal that exposure of the population be equal to the exposure of similar campaigns

conducted by a major, national retailer (Sears).

B. Narrowly defined consumer action messages promoted, phased in, and repeated on a regular monthly or bimonthly basis.

C. Messages will be published in all relevant media.

D. Communicate and coordinate themes and messages with retailers, and provide support materials.

E. Recognize private sector efforts through awards and publicity.

PART IV: RETAILER GOALS

Retailers will provide in-store public education, will practice sound merchandising practices aimed at package waste reduction, and will practice in-store recycling to the greatest possible extent.

I. Merchandising Practices

Major chain stores do in-store promotions of recycling and waste reduction through display and signing.

A. Stores use in-store displays and signing to explain or promote products that have minimum packaging or are sold in bulk.

B. Highlight environmentally benign packaging

1. Use end cap and overtable displays of significant items

2. Display signs explaining how to spot recycled and recyclable packaging

3. Label shelves, where appropriate, for waste reduction

4. Offer reusable and recyclable alternatives whenever possible

5. Offer bulk product and quantity purchase values whenever possible

6. Promote multiple purchases of commodity/staple items or larger sizes

7. Devise ways and means to present bulk products

8. Promote or highlight packages that can be reused.

9. Participate in the education of consumers in all the categories identified under consumer goals

10. Monitor consumer attitudes on a continuing basis to determine expectations

III. Trade Association Participation

A. Trade associations offer industry education and demonstration projects beginning with a one day workshop to present media themes and support materials for retailers

B. Trade associations offer awards for best waste reduction programs in cooperation with the Department of Ecology

IV. Internal Recycling

A. Recycle all internal materials possible

B. Recycle all office paper and collected materials possible

C. Utilize all recycled material

D. Promote source separation by consumers and employees for recycling and composting

E. Train employees through state sponsored education programs

V. House Brand Packaging Specification

A. Follow the guidelines listed on page 19

PART V: PACKAGE MANUFACTURER GOALS

The Task Force understands that the Waste Reduction Subcommittee has taken the leadership role in developing a proposal for the establishment of a "Western Regional Waste Minimization Board." However, since this is primarily educational in nature, we strongly recommend that the following manufacturers goals be included as part of its agenda.

Package manufacturers will take a proactive stand on waste

reduction and other environmental concerns.

I. Product and Package Design Standards

A. Manufacturers will adopt established packaging standards

1. Products and packaging will be designed to minimize waste.

2. Products and packaging will be recyclable.

3. Products will be offered in bulk, where feasible and/or desirable.

4. Concentrates of products will be offered, where feasible and/or desirable.

5. Packages will be designed for reuse where appropriate.

6. Packages will be designed for refill where appropriate.

7. Encourage suppliers to reduce packaging weight and volume and eliminate or reduce toxic materials.

B. Packaging logos

1. Comply with nationally accepted symbols and standards, such as those being developed by N.E.R.C. Standards must be acceptable to government agencies, public interested groups and industry.

II. Manufacturer Waste Reduction Education Program

In addition to the activities of the Regional Packaging Board, the following are recommended;

A. University research aimed at reducing packaging and understanding solid waste issues

B. Provide grants for university packaging schools that institute design and engineering curricula aimed the reduction of packaging waste

C. Create a database that does life cycle analyses of packaging options

D. Establish a library and data clearinghouse

E. Establish a speakers bureau

F. Present major environmental packaging conferences

G. Provide waste reduction planning expertise to manufacturers

III. Participation in DOE ongoing award program.

IV. Participation in community recycling programs.

A. Reuse or recycle all internal containers possible.

B. Recycle all office paper/collateral materials possible and purchase these items from companies selling recycled content in these products.

C. Provide space for separation bins for employees as well as space on the grounds for reclamation bins.

PART 6: GOVERNMENT GOALS

I. Traditional Public Education

A. Implement media strategies listed above

B. Actively support national consumer labeling program to inform consumers about the recycled content and recyclability of packages.

C. Design an instrument for waste reduction, reuse and recycling audits. Require waste reduction audits and plans for packaging manufacturers, wholesalers and retailers having over 50 employees.

D. Conduct year-long bulk delivery system pilot projects to assess the barriers to use of such systems, and provide retailers and industry the support necessary to further use of such systems (See Appendix K).

E. School Award Programs will be more broadly awarded so that a larger number of students perceive a chance of receiving an award.

F. Maintain the Resource Center in the Department of Ecology's Office of Waste Reduction to serve manufacturers, wholesalers, retailers and the public on packaging issues.

II. Non-traditional Public Education

A. Solid waste collection rates will incorporate incentives to encourage waste reduction and recycling (See Appendix I for discussion).

B. Establish mandatory preferential procurement specifications or set-asides to provide an example to industry.(See Appendix J).

C. Educate private and public purchasing agents about the use of products and packaging containing recycled fiber and cost savings achievable through waste reduction.

APPENDIX J
MEDIA STRATEGIES

I. General Education Strategies

A. A singular theme of waste reduction should be maintained throughout the campaign

It is important to remind the consumer that each message is part of a broader environmental or waste management message. This theme is repeated with all promotional and educational materials. It could be a phrase, logo, or other graphic image.

B. Narrowly defined messages promoted, phased in, and repeated for a sustained period of time will be used. Narrowly defined messages show consumers choices they can make and actions they can take. It is important to show product choices and compare items.

Messages are phased in over time, with the order based on the degree of consumer behavior change involved. In order to effectively change consumer behavior, it will be necessary to repeat the message for a sustained period of time. The angle of the message may be slightly altered to keep it fresh.

C. Messages will be published in all relevant media

1. Print media: industry trade journals, association journals, magazines, newspapers, brochures

2. Electronic media

D. Coordinate themes with retailers

Each store should be given leeway to develop it's own display, supporting the current consumer action message footnote with retail associations assisting in coordination the theme

E. Recognize private sector efforts through awards and publicity

APPENDIX K
RATE INCENTIVES

The Packaging Task Force submits that differential rates provide one of the best incentives for package waste reduction by consumers. The following is recommended:

I. Solid waste collection rates will incorporate incentives for waste reduction and recycling

Rationale:

The Best Management Practices Analysis for Solid Waste (DOE, 1988) recommended that local governments and haulers "structure rates for regular garbage collection services so as to encourage waste reduction and recycling." It was reasoned that "individual waste generators will become more aware of the cost of garbage collection and disposal in relation to the amount of waste they generate [and will] perceive the direct benefit of reducing waste...." Typically, rate structures of garbage collection set higher rates for the first unit (can, drum, dumpster, etc.) and lower rates for additional units collected at the same site. While such rate structures may fairly represent the marginal costs associated with collection of additional units, they do not encourage waste reduction or recycling and may even act as disincentives... A rate structure that charges the same rate for each similar unit of garbage, or an increasing rate for each additional unit, would send the right economic signals to waste generators and provide incentives to reduce waste disposal.

Rathje's findings have confirmed the assertions made in the Best Management Practices Study. He demonstrated that one of the best predictors of recycling behavior is the value of the commodity being recycled, and the monetary compensation paid to the recycler. When the value of aluminum is high, it is recycled at high rates. Conversely, when it is low, recycling tapers off.

The City of Seattle has experimented with rate incentives since 1981. According to Lisa Skumatz (1990),

> The City believes that the rate structure has been one of its most effective recycling programs. A comparison of tonnage over the entire period (1980-1989) shows that residential landfilled tonnage decreased 20%, pounds per household fell 25%, and pounds per capita declined about 20%.

In 1989, when the Legislature enacted HB 1671, it was anticipated that rate incentives would become the standard way of doing business. Section 20 (6) states that the Washington Utilities and Transportation Commission (WUTC) shall supervise and regulate solid waste collection companies

> By requiring certificate holders under chapter 81.77 RCW to use rate structures and billing systems consistent with

the solid waste management priorities set forth under RCW 70.95.010 ...

On one hand, Washington law requires the WUTC to adopt rates which create an incentive for waste reduction and source separation recycling. Utility customers should be rewarded with low rates for generating less garbage, and should pay more for greater generation. On the other hand, administrative practice of the WUTC and case law provide that rates should be based on the actual cost of service. The result is that the WUTC has taken the position that if a certificated hauler requests that an incentive be incorporated into the rate structure, it will be considered. In practice, however, rate incentives are not required because they are inconsistent with "cost of service" accounting principles.

Going one step further, HB 1671 requires only certificate holders to use rate structures consistent with state waste management priorities. The provision does not apply to local governments who provide service directly or through contract.

It is recommended that the Legislature take whatever action is necessary to assure that rate incentives become the norm in Washington State.

Note

As the final draft of this document was being prepared for publication, the WUTC was in process of conducting a Notice of Inquiry on rate incentives for waste reduction in order to investigate, and possibly change WUTC policy and practice on this topic. Results of that proceeding were unavailable when this report went to press.

Bibliography

Impacts of rate and program changes, 1980-1989, Seattle's System, Lisa A. Skumatz, 1990

Best Management Practices Analysis for Solid Waste, 1989, Department of Ecology, Matrix Management

APPENDIX L
MANDATORY PREFERENTIAL PROCUREMENT SPECIFICATIONS OR SET ASIDES

Post-consumer materials are not recycled until the products made from the material are purchased. Government purchasing of goods made of post-consumer or brokered materials can "prime the pump," creating the market demand so that the materials flow full circle. Procurement preferences are effective in stimulating markets in states which have them.

RCW 43.19.534 authorizes the director of general administration to develop rules to give preference to the purchase of goods made from from post-consumer materials. Rules are under development, and the Task Force recommends adoption.

In Use of Recycled Fiber in Existing Paper Mills Within Washington State (WDOE, 1990, pp. 93-4), recommendations were made which exceed what the state has planned:

- Require a minimum 10 percent price preference for all paper products that meet state standards for recycled content.

- Break down multi-product bids, so that small or specialized paper producers will not be cut out of the bidding process.

In addition, government agencies should require their contractors to use recycled paper by establishing affirmative action guidelines for recycled paper use. These guidelines should be written into all contract "boilerplates."

The report goes beyond state purchasing practices, and recommends that fiber content requirements be set for all paper grades, regardless of purchaser (pp. 95-6):

> **Establish recycled fiber content requirements for paper grades that can be produced using recycled paper, especially requirements for recycled fiber from low-valued materials such as mixed waste paper** ....
>
> At this time, recycled content legislation has been adopted only for newsprint. Given that a greater share of paper produced and consumed in the U.S. is for printing and writing paper, the state should also develop recycled content legislation for these types of paper.
>
> Content legislation should also extend to other grades of paper products such as packaging and specialty papers.
>
> Recycled content legislation should provide for phased implementation and sufficient time for paper producers to meet requirements. Content requirement specifications must

be set for each grade and must be technically achievable in the long term.

Content legislation should include some consideration of the availability, quality and price of recycled fiber ... and should not direct the origin of recycled fiber.

Specific legislative language or administrative guidelines should be developed with the advice of industry groups, including but not limited to publishers and mills.

The Task Force recommends including the recycling industry as well. Content legislation should consider not only the amount of recovered material, but should also consider the impact on recycling of a specific grade after it has been used for its intended purpose.

Finally, education of purchasing agents is recommended (pp. 108-109):

Educate private and public purchasing agents about the use of products containing recycled fiber.

Purpose: Influence the buying practices of large institutions and businesses by educating purchasing agents.

Desired results: Purchasing agents will obtain good information about recycled products. They will be able to recommend and supply recyclable fiber products to their client businesses or institutions.

The following program is recommended:

A series of seminars for purchasing agents would be put on around the state. These seminars should be brief (i.e., half day), free or inexpensive, and at convenient locations and times. Information should be organized in a manner relevant to different industries or activities within an industry (e.g., janitorial products, office products, printing products, etc.). Producers of recycled paper products could be enlisted to support the costs of putting on these seminars and to make presentations. Continuing information should be provided through written materials and contact persons.

To the extent that it is possible and practical, the Task Force recommends that price preferences also be given for packaging that is source reduced, reusable or refillable. Packages made of significantly less material than typically found for the same service, or resulting in less material going to incineration or landfill by virtue of being recyclable or reusable should be given preference.

APPENDIX M
BULK DELIVERY SYSTEM PILOT PROJECTS

The guidelines adopted by the Packaging Task Force recognize that "no package" is the best package for the environment. The next best package is one which can be reused. Bulk delivery systems offer consumers the opportunity to reuse containers and, concomitantly, reduce the amount of solid waste that they generate.

Bulk delivery systems have been used for some time and with sufficient success that most retail groceries have, at a minimum, a limited bulk delivery system for dry products. Expanding the use of bulk delivery systems presents one of the most promising and challenging opportunities for waste reduction. Successful expansion of such systems entails changes in the institutional roles played by manufacturers, retailers and consumers. Manufacturers must be willing to evaluate their product lines to identify those which can be safely and efficiently delivered in bulk distribution systems, and change their packaging practices when appropriate. Retailers must be willing to maintain bulk distribution systems, and to accommodate consumers reusing their packaging. Finally, if bulk distribution systems are to maximize waste reduction, consumers must reuse their packaging.

The Education Subcommittee recommends that a one year pilot program be conducted in Washington State to assess the barriers to greater use of bulk distribution systems, and to recommend ways to overcome each.

PURPOSE:

The purposes of the pilots are to aid the Department of Ecology in developing education materials for the public and for retailers, to develop procedures for use in a variety of sizes and types of store, and to make recommendations to the Packaging Board about improvements in distribution systems that can be made by manufacturers.

PROGRAM DESCRIPTION AND PARTICIPANTS:

Approximately 10 retail stores (or groups of retail stores) willing to participate in a demonstration project on bulk distribution systems will be identified. It is anticipated that these demonstrations will emphasize various methods of inducing customer participation.

Participating retailers will do the following:

1. Develop a plan with assistance from the Department of Ecology for bulk delivery systems including, but not limited to,

    a) procedures for check-out;

b) bin maintenance and health regulations;

c) consumer education; and

d) other contingencies.

2. Implement plan.

3. With the aid of DOE, conduct mid-project evaluation and, if warranted, amend the plan.

4. Participate in follow-up evaluations.

The Department of Ecology will do the following:

1. Provide grant to study bulk delivery systems nationally and abroad.

2. Help participating retailers write plans for bulk delivery of products, including operating procedures.

3. Conduct implementation training, or provide other support as needed.

4. Provide retailers with promotional and advertising campaign materials and assist with development of special in-house programs, as requested.

5. Conduct mid-project on-site workshops with store managers and lead staff to discuss what's working and what could be improved. Make adjustments to the plan if necessary.

6. Outline the procedures and strategies used by different stores, and evaluate what works well under various conditions.

7. Monitor customer behavior at pilot sites and at selected sites, and conduct focus groups to determine what will motivate customers to reuse their own containers on an ongoing basis.

8. Produce and distribute a video that can be used by retailers, discussing the advantages and caveats of bulk distribution systems.

9. Develop a statewide implementation plan and educational materials for manufacturers, retailers and consumers. The implementation plan will include a time line and projected participation rates by participants.

The Packaging Board will do the following (See Action Items, Appendix B):

1. Identify those products not now distributed in bulk delivery systems which could be without jeopardizing the quality of the product.

2. Inform the package and product manufacturers of Board findings.

3. In cooperation with the Department of Ecology, design bulk distribution systems appropriate to a variety of products, and provide ongoing technical assistance to retailers and the public about bulk delivery systems.

In the second year, participants will begin to assume the roles which will be sustained in the new steady state, including but not limited to, the following:

The Regional Packaging Board will do the following:

1. Establish a system to identify products appropriate for bulk distribution on an ongoing basis.

Package manufacturers will do the following:

1. Make changes in product packaging recommended by the Packaging Board.

2. Assess products to determine whether there are changes that could be made in each to render them deliverable via a bulk delivery system.

Consumers will do the following:

1. Buy products delivered in bulk delivery systems with containers brought from home.

Retailers will do the following:

1. Establish procedures for container reuse, as needed.

2. Train employees in procedures for sale of products in bulk (as needed).

3. Provide standardized containers that can be used by consumers for bulk purchases.

4. Make periodic reports to shoppers about the percent of sales made from bulk distributed goods.

The Department of Ecology will do the following:

1. Conduct on-site visits and training of retailers or groups of retailers as necessary or requested to develop or revise bulk distribution plans.

2. Provide ongoing technical assistance to retailers, local governments, and the public about bulk delivery systems.

3. Assist local governments, schools and retailers with public education efforts.

4. Inform manufacturers about trends in bulk distribution systems.

APPENDIX N
SCHOOL AWARDS LEGISLATION

1 AN ACT Relating to waste reduction and recycling awards program in
2 K-12 public schools; and amending RCW 70.95C.120.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

4 Sec. 1. RCW 70.95C.120 and 1989 c 431 s 54 are each amended to
5 read as follows:
6 The office of waste reduction shall develop, in consultation with
7 the superintendent of public instruction, an awards program to achieve
8 waste reduction and recycling in the public schools, grades
9 kindergarten through high school. The office shall develop guidelines
10 for program development and implementation. Each public school shall
11 implement a waste reduction and recycling program conforming to
12 guidelines developed by the office.
13 For the purpose of granting awards, the office may group schools
14 into not more than ((~~three~~)) <u>four</u> classes, based upon student

population, distance to markets for recyclable materials, and other criteria, as deemed appropriate by the office. Awards shall be granted each year to the schools that achieve the greatest levels of waste reduction and recycling. ((~~Each award shall be of a sum not less than ten thousand dollars. The office shall also develop recommendations for an awards program for waste reduction in the public schools. The office shall submit these recommendations to the appropriate standing committees in the house of representatives and senate on or before November 30, 1989.~~)) Five or more awards shall be granted to each of the four classes. Each award shall be a sum of not less than two thousand dollars nor more than five thousand dollars.

The superintendent of public instruction shall distribute guidelines and other materials developed by the office to implement programs to reduce and recycle waste generated in administrative offices, classrooms, laboratories, cafeterias, and maintenance operations.

APPENDIX O
PROPOSED AMENDMENTS TO WASHINGTON STATE'S TAX CODE

1 AN ACT Relating to the taxation of redeemable credits or deposits;
2 and amending RCW 70.95.030 and 82.04.070.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

4 Sec. 1. RCW 70.95.030 and 1989 c 431 s 2 are each amended to read
5 as follows:
6 As used in this chapter, unless the context indicates otherwise:
7 (1) "City" means every incorporated city and town.
8 (2) "Commission" means the utilities and transportation commission.
9 (3) "Committee" means the state solid waste advisory committee.
10 (4) "Department" means the department of ecology.
11 (5) "Director" means the director of the department of ecology.
12 (6) "Disposal site" means the location where any final treatment,
13 utilization, processing, or deposit of solid waste occurs.

1 (7) "Energy recovery" means a process operating under federal and
2 state environmental laws and regulations for converting solid waste
3 into usable energy and for reducing the volume of solid waste.
4 (8) "Functional standards" means criteria for solid waste handling
5 expressed in terms of expected performance or solid waste handling
6 functions.
7 (9) "Incineration" means a process of reducing the volume of solid
8 waste operating under federal and state environmental laws and
9 regulations by use of an enclosed device using controlled flame
10 combustion.
11 (10) "Jurisdictional health department" means city, county, city-
12 county, or district public health department.
13 (11) "Landfill" means a disposal facility or part of a facility at
14 which solid waste is placed in or on land and which is not a land
15 treatment facility.
16 (12) "Local government" means a city, town, or county.
17 (13) "Person" means individual, firm, association, copartnership,
18 political subdivision, government agency, municipality, industry,
19 public or private corporation, or any other entity whatsoever.
20 (14) "Recyclable materials" means those solid wastes that are
21 separated for recycling or reuse, such as papers, metals, and glass,
22 that are identified as recyclable material pursuant to a local
23 comprehensive solid waste plan. Prior to the adoption of the local
24 comprehensive solid waste plan, adopted pursuant to RCW 70.95.110(2),
25 local governments may identify recyclable materials by ordinance from
26 July 23, 1989.
27 (15) "Recycling" means transforming or remanufacturing waste
28 materials into usable or marketable materials for use other than
29 landfill disposal or incineration.

(16) "Redeemable credits or deposits" means a refundable sum of money or value paid by a purchaser, separate from and in excess of the sales price, received by a seller to induce the return of used products or packaging for the purposes of maximizing waste reduction, reuse, recycling, or remanufacture.

(17) "Solid waste" or "wastes" means all putrescible and nonputrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and recyclable materials.

((~~(17)~~)) (18) "Solid waste handling" means the management, storage, collection, transportation, treatment, utilization, processing, and final disposal of solid wastes, including the recovery and recycling of materials from solid wastes, the recovery of energy resources from solid wastes or the conversion of the energy in solid wastes to more useful forms or combinations thereof.

((~~(18)~~)) (19) "Source separation" means the separation of different kinds of solid waste at the place where the waste originates.

((~~(19)~~)) (20) "Vehicle" includes every device physically capable of being moved upon a public or private highway, road, street, or watercourse and in, upon, or by which any person or property is or may be transported or drawn upon a public or private highway, road, street, or watercourse, except devices moved by human or animal power or used exclusively upon stationary rails or tracks.

((~~(20)~~)) (21) "Waste reduction" means reducing the amount or toxicity of waste generated or reusing materials.

Sec. 2. RCW 82.04.070 and 1961 c 15 s 82.04.070 are each amended to read as follows:

"Gross proceeds of sales" means the value proceeding or accruing from the sale of tangible personal property and/or for services rendered, without any deduction on account of the cost of property sold, the cost of materials used, labor costs, interest, discount paid, delivery costs, taxes, or any other expense whatsoever paid or accrued and without any deduction on account of losses. "Gross proceeds of sales" shall not include redeemable credits or deposits as defined in RCW 70.95.030 received from or redeemed to a purchaser, or any values ascribed, attributed, or imputed to the returned product retained by the seller that do not exceed the deposit redeemed to the purchaser.

APPENDIX P
SUMMARY OF RECOMMENDED ACTIVITIES AND BUDGET

Activities proposed by the Packaging Task Force are identified, as well as a letter indicating the appendix in which each recommendation is made. Approximate annual costs are projected, and are based on biennial costs of proposed activities. When hiring of state employees is proposed, assumptions listed in the notes below are made.

Some activities dovetail with existing programs supported by the disposal tax. The Joint Select Committee is in the process of deciding whether to sunset or continue this tax and related programs. The result of that decision will need to be considered when the Packaging Task Force Budget is finalized in the legislative fiscal note.

1. Increased recycling by commercial and industrial establishments (App. I)

One FTE (EP 2) will be hired to conduct waste audits at commercial and industrial establishments. Annual cost: $68,617.

2. Packaging Subcommittee (App. F)

One FTE (EP-2) to provide staff support to the packaging committee. Annual cost: $68,617.

3. Enforcement: Plastic package coding (App. D)

One FTE (E 3) to perform enforcement of plastic coding provision. Annual cost: $68,617.

4. Bulk Distribution Pilot Study/Retail support (Apps. I, M)

The bulk distribution pilot project outlined by the education subcommittee will require one FTE (EP 1). Annual cost: $58,784.

5. Procurement Education (App. L)

An intern will be hired to conduct procurement education workshops suggested in Appendix J. One half FTE at intern level will cost $24,694.

6. Waste Reduction Recycling and Litter Control Support Staff

One FTE (Sec-2) will be required to support the above positions. Annual cost is projected to be $40,738.50.

7. Public education (App. I)

The multi-media campaign is projected to cost $2,689,867. In determining the cost of the media campaign, the Task Force made the following assumption:

> Exposure of the population be equal to the exposure of similar campaigns conducted by a major, national retailer (Sears).

8. Regional Packaging Board (App. B)

Membership is projected to be $10,000 annually. The state's share of start-up costs is projected at $2,000.

9. Toxicology (Apps. G, H)

It is proposed that the packaging committee employ a toxicologist to help evaluate life cycle impacts of packaging. At a rate of $150/hr., these consultant services would cost $45,000 for 300 hours.

10. Tellus study (App. H)

Participation in the Tellus study would cost $25,000 annually for one year.

11. School Recycling Awards (App. L)

Restructuring and expanding the school recycling awards in order to involve a larger number of students is recommended. Total annual cost of the recommended program is $60,000, of which half currently comes from disposal tax revenues.

Budget Notes:

Approximate biennial costs of proposed activities are identified. When hiring of state employees is proposed, the following assumptions are made:

1. 6% pay increases to all current levels through the biennium
2. Average WRRLC costs for goods, services and travel
3. $7,500 start up cost and $2,000 per year continuing for equipment
4. Indirect costs at 48.2% of salaries
5. Support staff at 20% of direct technical staff
6. No additional supervisory support required

APPENDIX Q
DISSENTING OPINIONS

Report Title	Page
Dissent on the Composition of the Packaging Task Force	Q-2
On Behalf of a Materials Management Pre-disposal Fee to Support Collection and Marketing of Packaging Materials Requiring Subsidy	Q-3
On Behalf of an Effective Banning Authority	Q-6
On Behalf of a Holistic Approach to Waste Reduction	Q-9
On Behalf of Increasing the Package Reduction Goal	Q-10
On Behalf of an Industry Trade Association to Promote Package Source Reduction	Q-11
On Behalf of Mandatory Solid Waste Reduction Planning	Q-12
On Behalf of Minimizing the Use of Plastic Packaging	Q-13
On Behalf of Increased Paper Composting	Q-14

Dissenting opinions are offered by Task Force members who disagree with the recommendations in the action plan, and favor the views set forth here. These opinions express the views of the individuals signing each report, and not the Task Force as a whole, or the Department of Ecology.

DISSENT ON THE COMPOSITION OF THE PACKAGING TASK FORCE

When the Waste Not Washington Act was under consideration in 1989, some legislators considered imposing a tax on packaging. As an alternative, industry representatives argued that, before imposing a tax on packaging, the packaging industry should be given a chance to correct the problem of excessive packaging. Therefore, in establishing the Packaging Task Force, the legislature directed that [at least] fifty percent of the members be representatives of industry (including product and package manufacturers, retail businesses, solid waste collection companies, and recycling businesses). The result is that about two thirds of the membership of the Task Force are industry representatives (see Appendix A for listing). In contrast, one tenth of the membership is representative of local government, seven percent are representative of the environment, and seven percent are citizen activists.

The recommendations in this report do represent the majority view of those on the Task Force. However, we believe that it would be a mistake for the Legislature to assume that they represent the majority of local governments, environmental groups, or citizens of this state who, although they are the de facto majority, were not invited to serve on the Task Force in proportionate numbers.

Doris Cellarius, Sierra Club
Jack Weiss, Whatcom County
Lois Harbaugh, citizen
Jan Glick, Washington Citizens for Recycling
Steve Cook, Thurston County

ON BEHALF OF A MATERIALS MANAGEMENT PRE-DISPOSAL FEE
TO SUPPORT COLLECTION AND MARKETING OF PACKAGING MATERIALS
REQUIRING SUBSIDY

RATIONALE:

Before undertaking an economic activity, standard business practice includes the conduct of a cost-benefit analysis. Such analyses aid producers in deciding whether to manufacture and deliver to market a given product.

"Cost," although generally thought of in terms of money, has a broader economic application that includes any loss, injury or damage, such as pollution of a stream, destruction of a scenic area, extraction of a non-renewable resource, or establishment of a collection system and markets for post-consumer materials. When the full cost of a material, including damage to the environment as well as monetary outlays, is incompletely covered by the price of a raw material or finished product, the portion shifted to another segment of the economy is called the "side effect," "social cost" or "externality."

A prevalent trend in environmental management is to internalize to each product or economic activity all of its external costs, or externalities. Causing the producer, consumer or actor to pay for all the environmental costs associated with the product, package or economic activity establishes guidelines so that market prices reflect sensitivity to environmental impacts. Known as the "polluter pays" principle, this strategy is reflected in the following environmental laws and regulations which attempt to internalize to products their external costs:

- The Resource Conservation and Recovery Act (RCRA) promotes "cradle to grave" responsibility for toxic wastes or by-products. A waste remains the responsibility of the generator in perpetuity;

- Legislation governing underground storage tanks specifies that the clean-up of leaking tanks is the responsibility of the party owning the property at the time the economic activity was undertaken;

- The Clean Air Act requires generators of air pollution to control stack emissions;

- A part of the Emergency Planning and Community Right-to-know Act, the Toxics Release Inventory summarizes pollution impacts in the United States. The TRI requires mass balance reporting by industry, and holds each industry accountable for fugitive emissions;

- The Clean Water Act authorizes state and local government to

regulate water discharges on navigable waters. Pre-treatment may be required.

The "polluter pays" principle should be employed in municipal solid waste management as it is in other environmental management areas. Paying for solid waste management on the disposal end is inequitable in that it penalizes people who may not be using a particular material. Additionally, it distorts the picture so that neither producers nor consumers have a clear economic picture of the cost of their choices. Only when manufacturers take into account all the costs of their decisions (including the costs of post-consumer material collection, processing and marketing) will they systematically consider all the information needed to make the best possible decisions on behalf of the environment. If production of a material is environmentally sound, but it systematically goes to the landfill because it is too lightweight to collect cost-effectively, internalizing to the package the cost of separate collection will force the manufacturer to consider this fact and, if appropriate, switch to another package. This is the primary reason behind McDonalds recent decision to stop using polystyrene.

The business representatives who outnumber government and environmental members of the Task Force by two to one argue that society should pay for packaging at the disposal end of the process. They assert that it doesn't matter which pocket the money comes out of, that consumers will pay, either way. (Using this logic, we would conclude that the cost of air bags in automobiles should be paid through a gas tax, even though 90% of cars on the road don't have air bags.) However, attacking the problem at the point of disposal will never produce the result of **source** reduction which can only be accomplished by the manufacturer through product design and delivery systems chosen. By the time products and packages become solid waste, it is too late to effect reductions which must be made by the manufacturer.

St. Germain (1990) points out that by incorporating the cost of environmental impacts in product costs, producers and consumers alike will be better informed about their choices:

> Market exchange requires ownership, and the right to use something is obtained by giving up something in return. Since environmental resources cannot be owned and traded on the market, what is valued has no price attached. If markets existed for water, air, and land, the price of products that were created at a cost (pollution damage) to society, would be borne by the producer of that damage. Citizens would then be aware of the health or environmental hazards associated with different products or occupations, as it would be reflected in the price of the product. Polluters would pay for the pollution they emitted. Consumers would be able to trade off higher risks and damage for higher wages or

lower prices in an informed way. **The objective of economic incentives is to emulate a market arrangement by placing a price on pollution that would reflect the values people attach to the environmental resource.** (p.8)

PROPOSAL FOR DEVELOPING A MATERIALS MANAGEMENT FEE TO SUPPORT COLLECTION AND MARKETING OF PACKAGING MATERIALS REQUIRING SUBSIDY:

Ideally, packages should internalize all of the external costs associated with them (see the inventory in Appendix H). As mentioned elsewhere in this report, research is being conducted by the Tellus Institute, the result of which will provide the data on which to base external costs. In the meantime, the Legislature is encouraged, at a minimum, to require that the manufacturers of each packaging material be required to pay the following costs:

1. The marginal cost of collecting the packaging material (if the market value of the material is not sufficient to cover costs); and

2. The cost of market development activities, if such activity is needed for the material.

We respectfully request that the Legislature direct the Department of Ecology to develop this and other information, and to propose legislation for introduction in the 1992 Legislative session to implement a materials management pre-disposal fee.

Until a materials management pre-disposal fee is developed and implemented, we recommend that an additional assessment be levied on a formularized basis on materials requiring subsidy for collection and market development. We believe that such a fee which places the burden at the front end of the system better approximates good public policy than does a disposal tax for the reasons stated above.

Bibliography

"Economic Incentives in Environmental Policymaking," St. Germain, Joy, 1990, Washington State Department of Ecology

Doris Cellarius, Sierra Club
John Paul Jones, Washington Waste Management Association
Joe Bushnell, Tacoma Recycling
Carl Woestendiek, City of Seattle
Jack Weiss, Whatcom County
Lois Harbaugh, citizen
Jan Glick, Washington Citizens for Recycling
Steve Cook, Thurston County

ON BEHALF OF AN EFFECTIVE BANNING AUTHORITY

The purpose of authorizing the banning of products or packaging is twofold: a) to enable the banning of materials which pose a threat to public health, safety or the environment; and b) to induce manufacturers to invest in collection and processing systems for materials which would otherwise be incinerated or landfilled.

Effective July 1, 1993, local governments will regain the authority to ban packaging. This authority was preempted by the Legislature in 1989 in order to give the packaging industry four years to reduce the volume, weight and toxicity of packaging entering the waste stream. The Packaging Action Plan proposes that the preemption of local banning authority be made permanent. Above all, we, the undersigned, believe that Legislative imposition of a permanent preemption of packaging bans by local government would constitute a serious breach of trust. A promise was made by the Legislature that local authority would be preempted for a limited period of time. Local governments agreed to this on a conditional basis. For the Legislature to change this agreement unilaterally is unthinkable. For this reason alone, local governments should not be preempted by the Legislature from banning packaging after July 1, 1993.

In addition to the fact that the Action Plan proposes breaking this promise, we have the following concerns:

<u>Local responsibility without local authority</u>:

* Local government is responsible for managing the solid waste stream and must have the latitude to respond to the management problems it encounters. To vest in local government the responsibility for the health and safety of its citizenry without the concomitant grant of police authority to implement necessary programs negates its ability to carry out its responsibilities.

<u>Target Recycling Rates too low to address Urban Needs</u>:

* Under the proposed banning procedure, target recycling rates are set on a statewide basis. Because these rates incorporate projections for the rural parts of the state where less intensive recycling is expected, they may be somewhat lower than the rates set in urban areas such as the City of Seattle.

Banning Procedure will not drive Manufacturer Investment in Recycling Systems and Market Development:

* There appears to be a strong positive correlation between the density of packaging materials and the existence of separate systems to collect them. Due, in part, to the relatively low cost of collection, systems to divert denser materials are more prevalent than are those to divert less dense materials.

  One of the purposes served by the possibility of a package ban is that industry is encouraged to invest in recycling infrastructure. However, the proposed restructuring of the authority to ban packaging defeats this purpose. Specifically, the majority recommendation of the Packaging Action Plan specifies that in order for a package to be banned, a substitute package must be identified. Use of the substitute must result in less waste going to landfill or incineration.

  On the surface, this seems like a desirable policy objective. However, in actuality, it will not encourage investment in recycling systems, especially for the light weight materials which most need to be targeted for investment. The following example illustrates the point:

  Plastic packaging is relatively low density. This makes it attractive to manufacturers because it is relatively inexpensive to get to market. However, its low density also makes it relatively expensive to collect after use. If a given type of plastic is not recycled at the target rate set for it, it may be banned, provided a substitute package is identified which is recycled at its target rate, and which results in less waste (measured by volume and weight) going to landfill or incineration.

  Under current conditions, there is generally no substitute for plastic which can perform the same functions, is recycled at high rates, and is lighter weight and lower volume. Therefore, under the proposed configuration, manufacturers will not be motivated to invest in the collection systems for which investment is most needed.

We, the undersigned, propose that when the state preemption of local bans expires on July 1, 1993, the Legislature allow local governments, once again, to have authority to ban products and packaging as their wisdom dictates.

Industry is concerned that local jurisdictions will ban materials in a cavalier fashion. This fear is unfounded. We believe that local governments in Washington State stand ready to work with industry to resolve outstanding problems. Yet the only

significant tool available to make sure that industry comes to and stays at the table is the possibility that materials could be banned. Without this, local jurisdictions become disenfranchised voices.

Lois Harbaugh, citizen
Jan Glick, Washington Citizens for Recycling
Steve Cook, Thurston County
Jack Weiss, Whatcom County
Carl Woestendiek, City of Seattle
Doris Cellarius, Sierra Club

ON BEHALF OF A HOLISTIC APPROACH TO WASTE REDUCTION

The Packaging Action Plan recommends that by 1998, the per capita weight of packaging should be reduced by twenty percent in Washington. Although weight, per se, is one of the parameters by which successful source reduction can be measured, it is not necessarily the measure. As noted elsewhere in this report, the Tellus Institute is conducting a comprehensive study of the environmental costs of different packaging materials based on a "cradle to grave" assessments of each. As additional information about life cycle environmental costs becomes available, impacts other than package weight may prove of greater detriment to the environment, even though the weight of the related discharge is less. For example, the release of certain volatile organic compounds used in the production of plastic packaging may prove more damaging to the environment than the landfilling of an equivalent glass package, even though the glass is heavier.

We, the undersigned, propose that the legislation establishing the twenty percent reduction goal be amended so that the Packaging Council is directed to report annually to the legislature on the appropriateness of the twenty percent weight reduction goal, and to make recommendations concerning establishment of a more holistic means of measuring waste and source reduction.

Jack Weiss, Whatcom County
Lois Harbaugh, citizen
Steve Cook, Thurston County

ON BEHALF OF INCREASING THE PACKAGE REDUCTION GOAL

The packaging reduction goal of twenty percent is too low. It will be viewed as such by the public, especially considering the continued growth of the packaging component of the waste stream.

There are many steps that can be taken to change delivery systems, and dramatically reduce the volume, weight and toxicity of packaging. The Task Force is proposing a year long pilot project to evaluate bulk distribution systems. If industry is serious about this venture, it ought to yield waste reduction far beyond the 20% reduction that is recommended as a goal.

Legislation proposed by the Task Force recommends use of economic incentives to encourage package reuse (See Appendix O). The deposit systems encouraged by this legislation should be established by industry. It is one way to promote very efficient collection and reuse of packages at the least cost to government.

Another strategy may be standardizing containers. There is virtually no reason for multiple container designs apart from market promotion. A standardized system would enhance container reuse.

Doris Cellarius, Sierra Club
Jack Weiss, Whatcom County
Lois Harbaugh, citizen
Jan Glick, Washington Citizens for Recycling
Steve Cook, Thurston County

ON BEHALF OF AN INDUSTRY TRADE ASSOCIATION
TO
PROMOTE PACKAGE SOURCE REDUCTION

The Packaging Action Plan suggests formation of a Western Packaging Board comprised of industrial, governmental and environmental representatives. The putative purpose of this board is to serve as an industry self-regulating body, styled after the American Medical Association or the American Bar Association (see page B-2).

A self-regulating body should be just that- self-regulating. The advise and expertise of environmental and governmental representatives may be sought, but corrective actions are the responsibility of the packaging industry. Although consumers, including environmental and governmental consumers, participate in packaging decisions by their purchases, the ultimate decision about packaging is made by industry which has a responsibility to deliver product to market in an environmentally sound manner. An appropriate role of government is to set and enforce packaging performance criteria

Borrowing another parallel from the medical establishment, we would not expect patients to recommend corrections to a questionable medical procedure, even though they are consumers of the procedure. We would, however, argue that if doctors fail to practice medicine in a way that is conducive to human health, they should get out of the business.

We, the undersigned, believe that the packaging industry does have a responsibility to minimize the volume, weight and toxicity of packaging. Formation by industry of a Packaging Board appears to be a logical way for packaging professionals to address these issues. However, we seriously question the advisability of involving governmental and environmental members on this Board. To do so would imply that they are responsible for correcting a problem not of their making.

Doris Cellarius, Sierra Club
Jan Glick, Washington Citizens for Recycling
Steve Cook, Thurston County

ON BEHALF OF MANDATORY SOLID WASTE REDUCTION PLANNING

The Action Plan calls for waste audits to be done in businesses with over fifty employees. We, the undersigned, believe that such audits should be mandatory, and should be incorporated in local solid waste management plans. Audits could be used to encourage businesses receiving and sending packaging to evaluate their practices, and develop reusable systems that can substitute for disposables.

Jack Weiss, Whatcom County
Steve Cook, Thurston County

ON BEHALF OF MINIMIZING THE USE OF PLASTIC PACKAGING

There are several problems associated with plastic packaging not addressed by the action plan. A discussion of each follows:

1. The plan encourages institutionalization of plastic recycling at the level of traditional recycling programs, despite the fact that the packaging industry is not willing to reveal what is in the packaging, and what is released when it is recycled or decomposes.

   The plastic codification system implies that we wish to encourage the use and recycling of a multitude of different plastic types. Although we propose reduction of their heavy metal content, the problems of plasticizers and other additives have not been addressed. These substances, some of which are carcinogens and teratogens, contaminate landfill leachate, and incinerator emissions and ash. The plasticizer diethyl hexaphthalate has already been found in groundwater at the Thurston County landfill. The FDA is also concerned because these substances migrate into foods during microwaving. (One of the only good sources of information about additives to plastics is the FDA because of their approval process. FDA testified before the EPA that additional food uses for PVC would be dangerous because it would increase the contamination of incinerated garbage.) The authors of "Collision Course: Plastics Packaging vs. the Environment" (1989) have stated that the plastics industry they contacted would not share this information because of trade secret provisions.

2. The plan encourages institutionalization of plastic recycling at the level of traditional recycling programs, despite the fact that it is a very low grade form of recycling.

   Paper, glass and metals can be recycled into packages similar to the original packages, while plastics are generally recycled into lower grade plastic products that often have no recycling system available to continue their recoverability.

3. Under the proposal, the FDA rule on recycled content for packaging becomes a loophole as a health and safety exemption.

   It is proposed that packaging must be made of recycled material, which is good, but which might exclude (and thus exempt from this regulation) much food grade packaging, since FDA does not allow recycled material in food-contact packaging.

Doris Cellarius, Sierra Club

ON BEHALF OF INCREASED PAPER COMPOSTING

The option of composting nontoxic paper should be open as an alternative to recycling plastic packaging. The materials that are destined for disposal, such as single use packaging, should be safe to landfill or compost if it can not be reused. Experiments in composting simple, unbleached paper packaging suggests that this might be an acceptable "recycling" alternative. The Task Force banning proposal (Appendix F) would make this difficult to implement because it is based on measures of traditional recycling.

Doris Cellarius, Sierra Club
Steve Cook, Thurston County
Lois Harbaugh, citizen

APPENDIX R
PROPOSED LEGISLATION TO INCREASE THE
SOLID WASTE COLLECTION TAX

An Act relating to the taxation of solid waste collection.

Chapter 82.18 RCW is amended to read as follows:

SOLID WASTE COLLECTION TAX. (1) There is imposed on each person using the services of a solid waste collection business a solid waste collection tax of (~~one~~) two and two tenths percent of the consideration charged for the services. This tax shall be applied only to a service charge for actual solid waste collection services that are provided. For residential collection service only, the tax shall apply to the lesser of the consideration charged for the services or:

(a) For customers with less than two-can service, the first eight dollars of the monthly charge for the services.

(b) For customers with two-can service or more, the first twelve dollars of the monthly charge for the service.

(2) Money collected under this section shall be held in trust until paid to the state. Money received by the state shall be deposited in the solid waste management account created by section 90 of this act.

(3) On July 1, 1993, the tax imposed under subsection (1) shall be reduced to one and two-tenths percent.

(4) This act shall take effect on July 1, 1991.

(5) This section shall expire on (~~July 1, 1993~~) December 31, 1996.